

U.S. Patent 5,787,156

Patent Drawing

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5,787,156

U.S. Patent Number 5,787,156

Inventor: Ronald A. Katz

Issue Date: July 28, 1998

All claims of U.S. Patent No. 5,787,156 are invalid in light of the following prior art:

- U.S. Patent No. 3,622,995 ("Dilks").

Accompanying this submission, please find one or more claim charts applying one or more of the above cited prior art references being applied to one or more claims from U.S. Patent No. 5,787,156.

Accompanying this submission, please find a copy of *Ronald A. Katz v. AT&T Corp.*, 63 F.Supp.2d 583 (E.D. Pa. 1999), in which that court construed some elements of patent claims issued to Ronald A. Katz and a copy of *Marlow Indus., Inc. v. Igloo Prod. Corp.*, No. 02-1386, 2003 WL 21212626, (Fed. Cir. May 23, 2003)(unpublished).

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Pursuant to 37 U.S.C. §1.555, “each individual associated with the patent owner in a **reexamination** proceeding has a duty of candor and good faith in dealing with the [Patent] Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability in a reexamination proceeding” (See 37 U.S.C. §1.555 and MPEP 2280)(emphasis added). “Informing the examiner of the pending infringement action is not commensurate with bringing to the examiner’s attention the districts court’s prior claim construction of the patent or disclosing the court orders embodying this construction. *See Rohm & Haas Co. v. Crystal Chem. Co.*, 722 F.2d 1556, 1572-73, 220 USPQ 289, 302 (Fed. Cir. 1983) (concluding that a presumption that an examiner was able to find, with his expertise and adequate time, the critical data when he was presented with a “**mountain of largely irrelevant data**” ignores the real world conditions under which examiners work).” *Marlow Indus., Inc. v. Igloo Prod. Corp.*, No. 02-1386, 2003 WL 21212626, at *2-3 (Fed. Cir. May 23, 2003)(unpublished)(*See Fed. Cir. Rule 47.6*)(emphasis added).

Pursuant to 37 U.S.C. §1.555, we believe that the prior art, decisions, opinions, orders, and arguments associated with the following proceedings may be pertinent:

- *West Interactive Corp. v. First Data Resources Inc.*, 1991 WL 355059 (D. Neb. July 22, 1991);
- *First Data Resources Inc. v. West Interactive Corp.*, No. 91-CV-4471 (C.D. Cal. August 20, 1991);
- *West Interactive Corp. v. First Data Resources Inc.*, 972 F.2d 1295 (Fed. Cir. 1992);
- *Ronald A. Katz Tech. Licensing, LP v. AT&T, Corp.*, No. 97-CV-539 (D. Neb. Oct. 27, 1997);
- *Ronald A. Katz Tech. Licensing, LP v. AT&T, Corp.*, No. 98-CV-88 (D. Neb. Mar. 2, 1998);
- *Ronald A. Katz Tech. Licensing, LP v. AT&T Corp.*, 63 F.Supp.2d 583 (E.D. Pa. 1999);
- *Ronald A. Katz Tech. Licensing, LP v. Micro Voice Applications Inc.*, No. 99-CV-592 (N.D. Cal. Feb. 8, 1999);
- *Enhanced Global Convergence Serv., Inc. v. Ronald A. Katz Tech. Licensing, LP*, No. 01-CV-375 (D. N.H. Oct. 5, 2001);
- *Verizon Cal., Inc. v. Ronald A. Katz Tech. Licensing, LP*, No. 01-CV-9871 (C.D. Cal. Nov. 16, 2001);
- *Enhanced Global Convergence Serv., Inc. v. Ronald A. Katz Tech. Licensing, LP*, No. 02-CV-66 (D. N.H. Feb. 2, 2002);
- *Ronald A. Katz Tech. Licensing, LP v. Verizon Communications Inc.*, 2002 WL 1565483 (E.D. Pa. July 16, 2002);
- *Ronald A. Katz Tech. Licensing, LP v. Verizon Communications Inc.*, 2002 WL 31834833 (E.D. Pa. Dec. 18, 2002); and
- *Ronald A. Katz Tech. Licensing, LP v. Verizon Cal., Inc.*, No. 03-CV-1918 (C.D. Cal. Mar. 18, 2003).

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Claim Elements	The Prior Art – Dilks U.S. Patent No. 3,622,995 filed Mar. 21, 1969, issued Nov. 23, 1971
A method for conducting a telephonic-interface for use with a communication facility including remote terminal apparatus for facilitating calls from persons holding tickets or cards ,	<p>Dilks discloses an automatic ticket/credit card check-in system. In one embodiment, the passenger accesses the reservation system via telephone (See Fig. 6 and Col. 8, Lines 13-57). Such access would necessarily require the use of a communication facility to connect the passenger with the reservation system.</p>
including voice communication means, and digital input means in the form of an array of alphabetic numeric buttons for providing certain identification data, comprising the steps of:	<p>“The first contact that passenger 301 makes with the system is with reservation office 310 by telephone.” (Col. 8, Lines 15-16).</p> <p>“Figs. 4 and 5 illustrate <u>two representative ticket formats each carrying a ticket or reservation code number suitable for use in practicing the invention.</u>” (Col. 7, Lines 42-44).</p>
developing a consumable key number for use with an interactive call processing format ;	<p>“Before the flight, the passenger may contact any such reservation office 310, city ticket office 330 or airport terminal office 350 or 360, for example, for checking on the status of his reservation or of any of the flights involved or to change his reservation during a given period before each flight at any of these offices. <u>During each contact with the system the desired information may be obtained merely by transmitting to the central processing system the ticket code number along with a request for the desired data.</u>” (Col. 8, Lines 20-30).</p>
	<p>“Once a suitable reservation is found to be available from the data processor, <u>the necessary passenger identification and reservation data, including the ticket or reservation number, is communicated to the central control system for storage in the memory in relation to the number.</u>” (Col. 7, Lines 25-30).</p>
	<p>“Once a reservation for an accommodation is accepted and acknowledged, the system determines at time 630 whether or not printing is required. If it is, <u>the system proceeds to step 650 for printing the ticket and issuing a boarding pass, if required.</u>” (Col. 9, Lines 39-44).</p>
	<p>As described above, the boarding pass (which may only be used <u>once</u>) will contain the ticket number (consumable key).</p>

<p>providing said consumable key number on a ticket or card for identification,</p> <p>said consumable key number for entry by each caller via said digital input means; and</p>	<p>“In the representative ticket of FIG. 4 the reservation or ticket code number appears in the middle of the ticket at the bottom.” (Col. 7, Lines 44-46).</p> <p>“During each contact with the system the desired information may be obtained merely by transmitting to the central processing system the ticket code number along with a request for the desired data.” (Col. 8, Lines 28-30).</p>	<p>“As indicated in FIG. 11, when a passenger presents his ticket for automatic check-in at time 810 the system reads the ticket number.” (Col. 9, Lines 68-70).</p> <p>“It then proceeds to determine whether or not the reservation has been confirmed or guaranteed at step 850. In adapting the invention to handle reservations without ticket issuance, the system simply transmits the reservation code or number to the central processor system or the local processor for check-in of the reservation from a keyboard or credit card reader in lieu of reading a ticket. If a reservation has been confirmed or guaranteed, the system proceeds to issue a boarding pass at time 870.” (Col. 9, Line 73 through Col. 10, Line 7).</p>
		<p>receiving said consumable key number from a remote terminal apparatus</p> <p>and testing said consumable key number to limit access by said caller to said interactive call processing format, based on entitlement of said caller to a limited number of uses.</p>

Dependent Claims	The Prior Art – Dilks U.S. Patent No. 3,622,995 filed Mar. 21, 1969, issued Nov. 23, 1971
Claim 11 A method for conducting a telephonic-interface according to claim 10, wherein said testing step limits access by each caller to a one time only use.	As discussed above, claim 10 is anticipated by Dilks. Dilks discloses a method for airline ticket reservations. Necessarily, each ticket is good for one flight. “Automatic check-in of these reservations can be initiated through agent sets 126, 128, 156, 196 or through credit card readers 132, 134, 162, 164 and 180. Check-in can also be initiated through teleprinters 166 and 168. <u>Any one</u> of these units can transmit the identifying code or number of the reservation for comparison against a list of reservations for the same flight or departure. Upon detection of a match between a reservation code or number and a reservation stored in central data store 195, central processor 190 transmits a signal validating admission to the reserved accommodation.” (Col. 6, Lines 1-10).

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United States

7455-58-1

(11) 3,622,995

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[21] Appl. No. **809,277**
[22] Filed **Mar. 21, 1969**
[45] Patented **Nov. 23, 1971**
[73] Assignee **Burroughs Corporation**
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3,394,246 7/1968 Goldman 340/149
3,445,633 5/1969 Ratner 235/61.7
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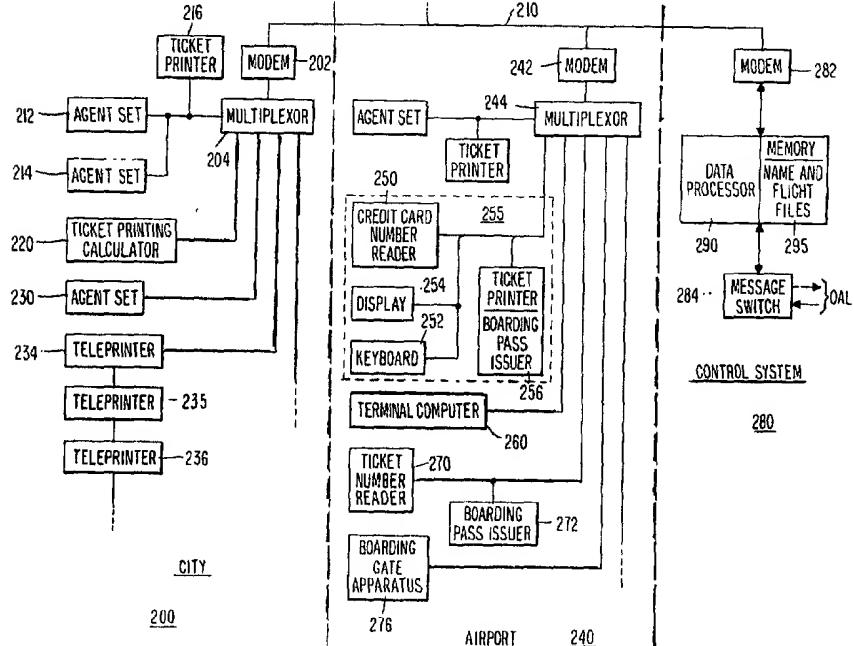
[54] **AUTOMATIC TICKET/CREDIT CARD CHECK-IN SYSTEM**
16 Claims, 11 Drawing Figs.

[52] U.S. Cl. 340/153,
179/2 CA, 235/61.7 R, 235/61.9 R, 340/149 A
[51] Int. Cl. G07f 7/02
[50] Field of Search. 340/149,
149 A, 153, 147; 194/4; 235/61.7, 61.9; 179/2 CA

[56] **References Cited**
UNITED STATES PATENTS

2,754,496 7/1956 Embry et al. 340/149

ABSTRACT: Data processing systems for automatic, on-line checking of numbered reservations and/or the control of credit card purchases, without referencing any data on the ticket or credit card itself. Such systems include a central processor, a remotely addressable central data store for reservation and customer account information, and remote terminal input apparatus, printer apparatus and ticket or card number reader apparatus. The remote terminal input apparatus includes ticket, credit card and freight bill number readers, in addition to keyboard input apparatus for on-line access to numbered reservations or accounts. One such system also includes automatic boarding pass issue apparatus responsive to the central processor system and pass-operated boarding gate apparatus.



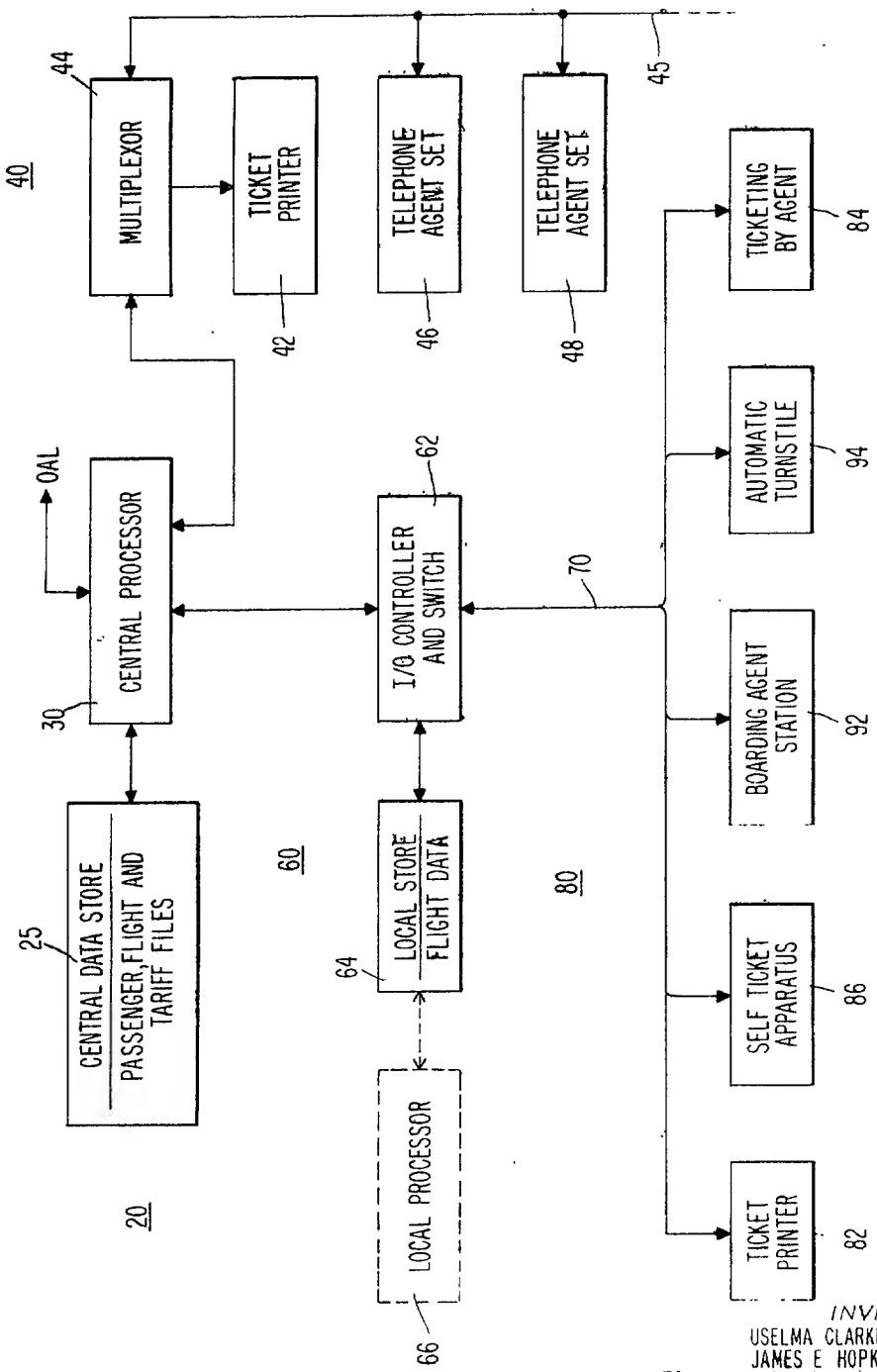


Fig 1

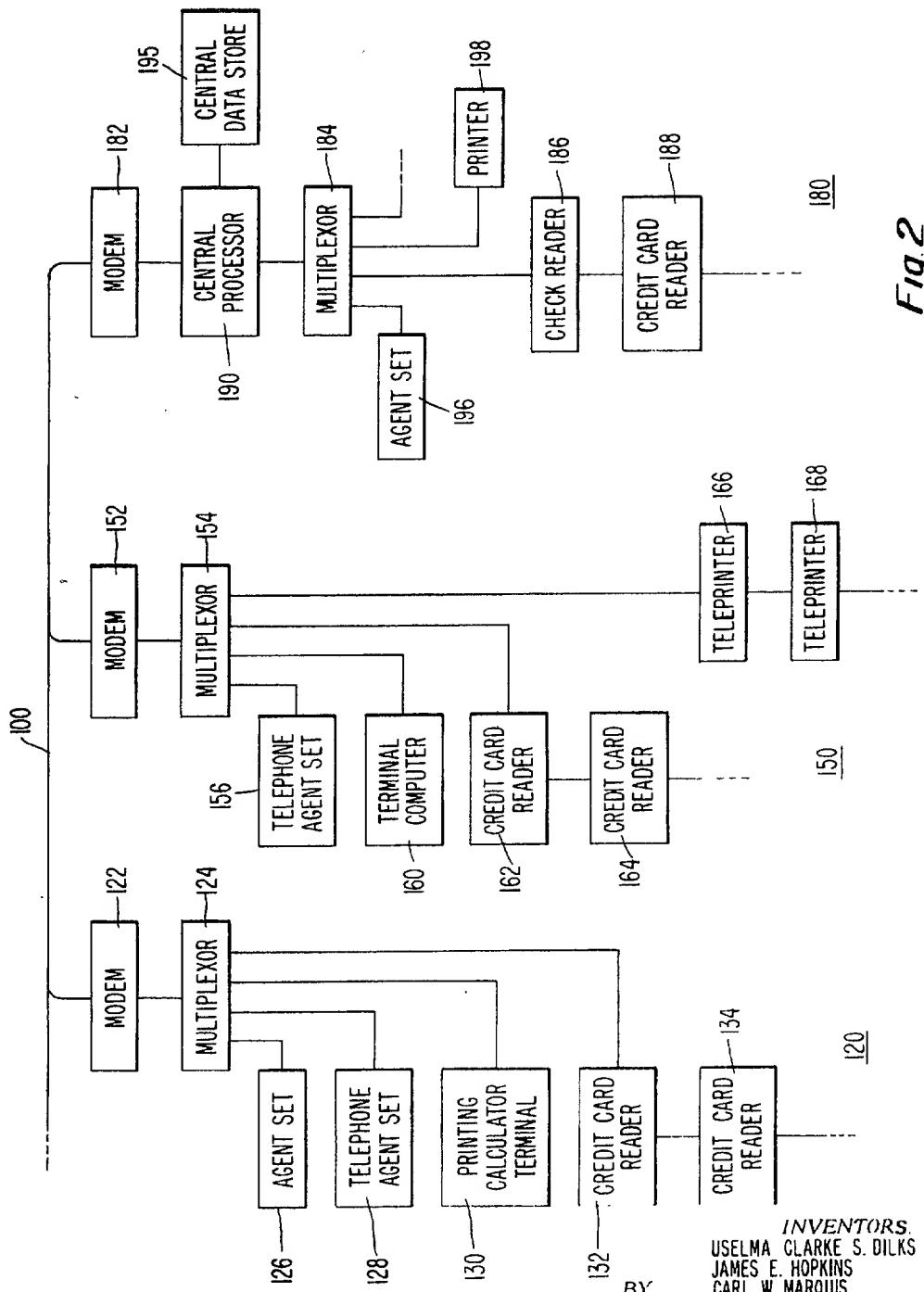
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PATENTED NOV 23 1971

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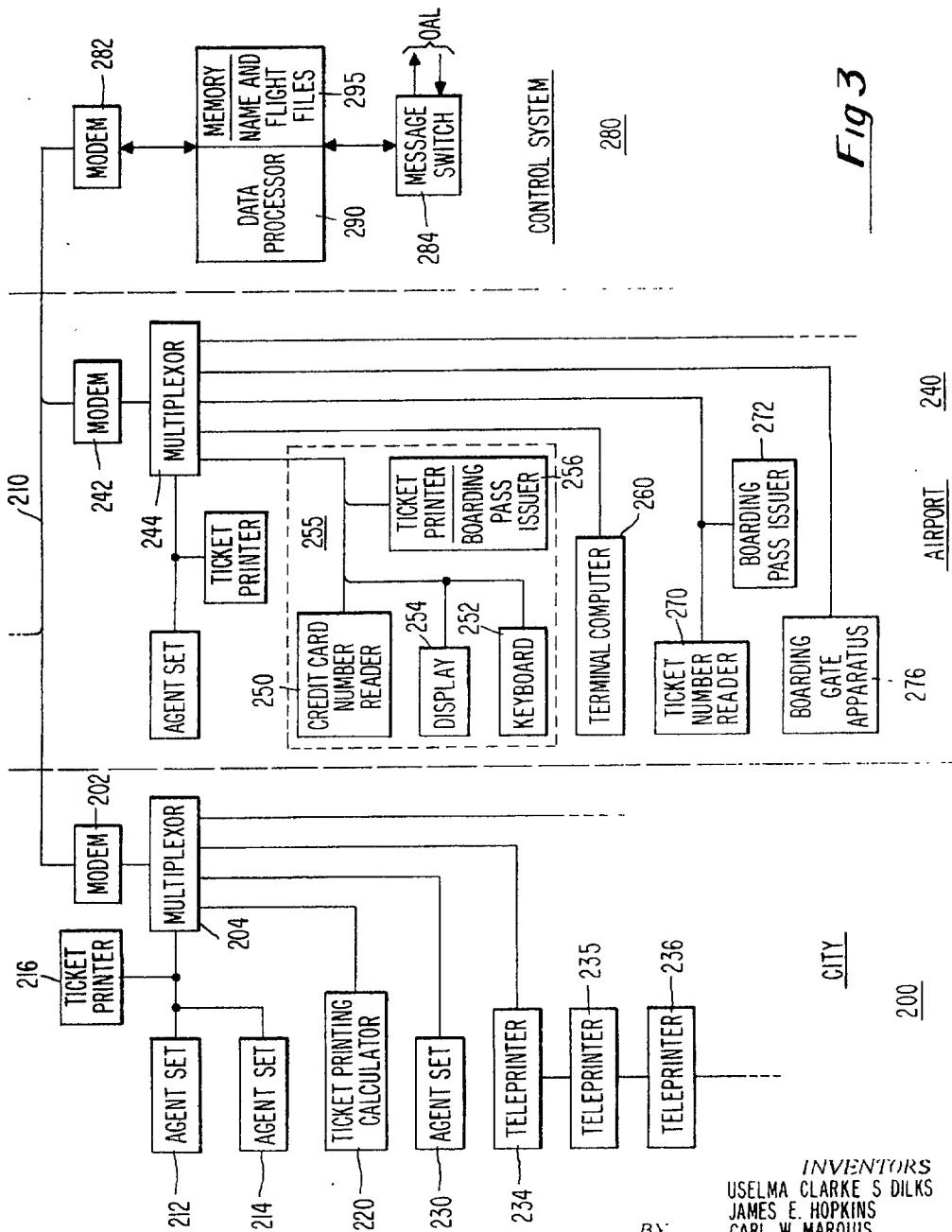


Fig 3

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PATENTED NOV 23 1971

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SHEET 4 OF 8

ISSUED BY		INTERNATIONAL AIRLINES		PASSENGER TICKET AND BAGGAGE CHECK		COUPON IDENTIFICATION		TICKET DESIGNATOR	
BINDING STUB		PASSENGER NAME		FLIGHT COUPON		TIME		FARE BASIS	
1	GOODMAN H J CMDR	2	GOOD FOR PASSAGE	3	AIRLINE XYZ	4	FLIGHT NO. 4567A F	5	FARE BASIS 1045P
2	FROM CHICAGO OHARE	3	DATE OF FLIGHT 21 DEC	4	TO NEW YORK JFK	5	TIME 1045P	6	NOT VALID BEFORE 21 JAN
7	FARE US\$ 237 80	8	FARE 44K	9	NYC XYZ	10	BDL ABC 9876F	11	NOT VALID AFTER 21 JAN
8	TAX US\$ 1 89	9	ACQ. 44K	10	1234F	11	8DS	12	
10	TOTAL 249 69	11	MC00148012345672	12	PL ZYL	13	THIS FLIGHT FOR MEN ONLY	14	
11	AMT. 268 45	12	12DEC68 CHICAGO 331	13	22OCT67 7752890	14	FORM OF PAYMENT	15	
12	Coupon EXP. CODE 100	13	COUPON EXP. CODE 100	14	TICKET FORM AND NO. 8945	15	CREDIT CARD NO.	16	DATE OF ISSUE
13	FAIR VALUE 100	14	FAIR VALUE 100	15	PLACE OF ISSUE AO CHI	16	DATE/PLACE ISSUE		
14	5458931405	15	5458931267893241	16	14635 CAB YE30 CHI				

Fig. 4

ISSUED BY		PASSENGER TICKET AND BAGGAGE CHECK		FOR ISSUING OFFICE ONLY		FOR FAIR CALCULATION		FARE		THIS END DOWN FOR TURNSTILE INSERTION	
1	EVERYONE'S AIRLINES	2	ORIGIN NYC	3	DESTINATION BRU	4	VALID UNTIL 14 FEB	5	DATE OF ISSUE 4 DEC 68	6	DATE OF PAYMENT
7	ISSUED IN EXCHANGE FOR CK	8	ROUTE CODE 170	9	ACCT DEPT USE	10	FARE BASIC CARRIER	11	FLIGHT DATE	12	TIME
11	FROM NYC JFK	12	TO BRUSSELS	13	TO NYC JFK	14	TO TO	15	TO TO	16	TO TO
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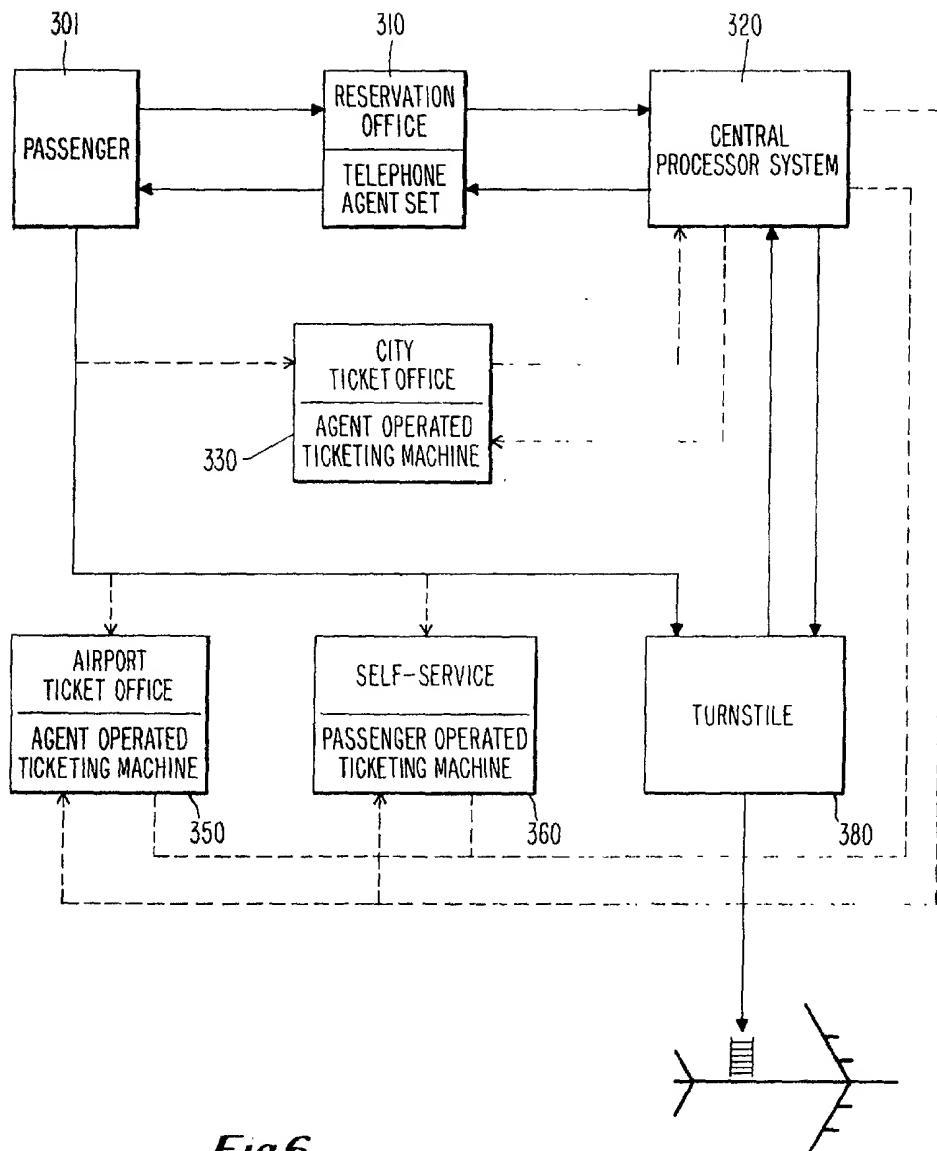


Fig 6

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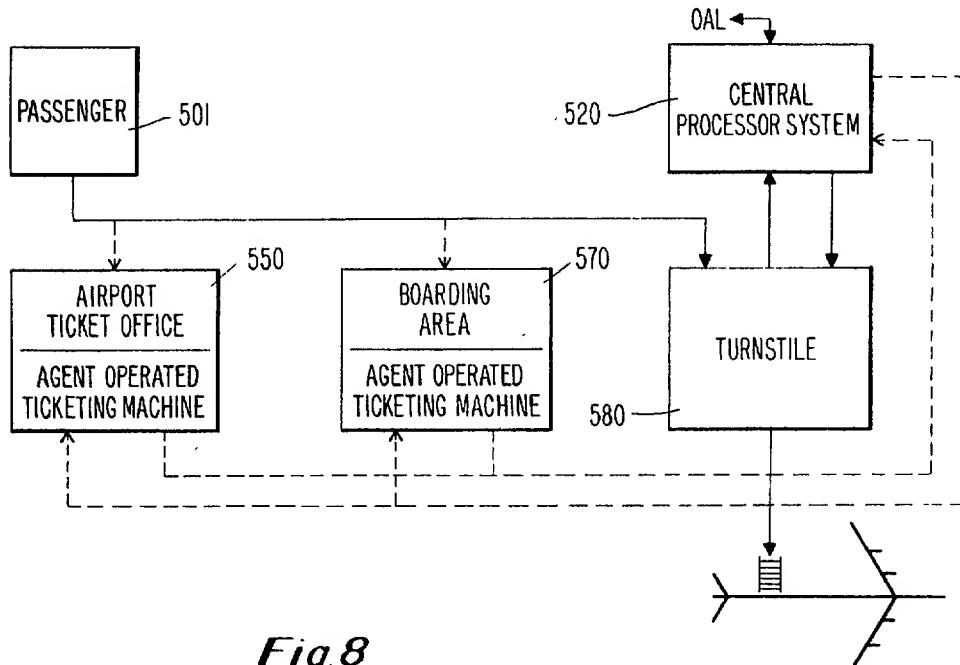
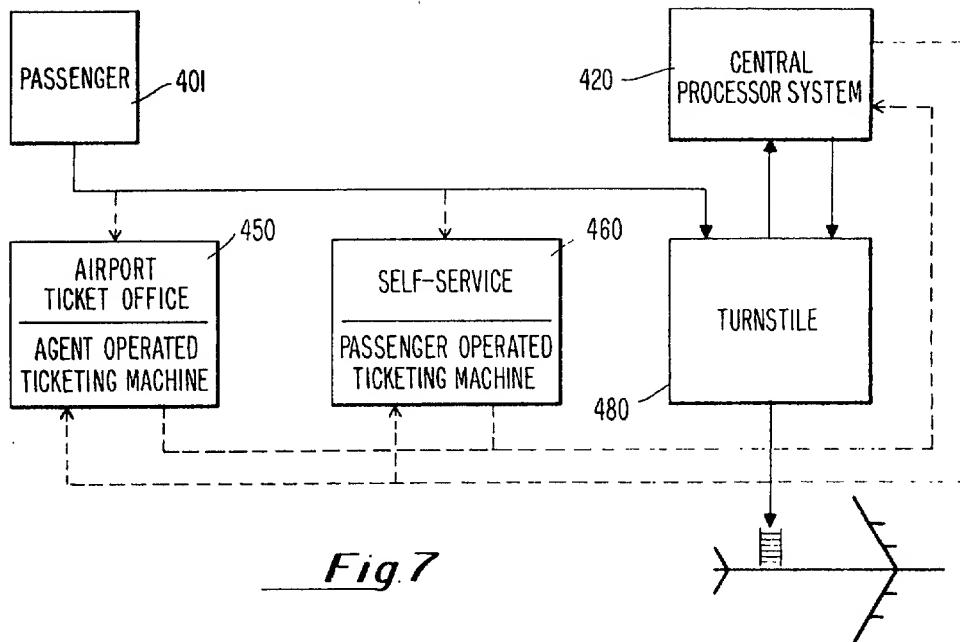
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PATENTED NOV 23 1971

3,622,995

SHEET 6 OF 8



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SHEET 7 OF 8

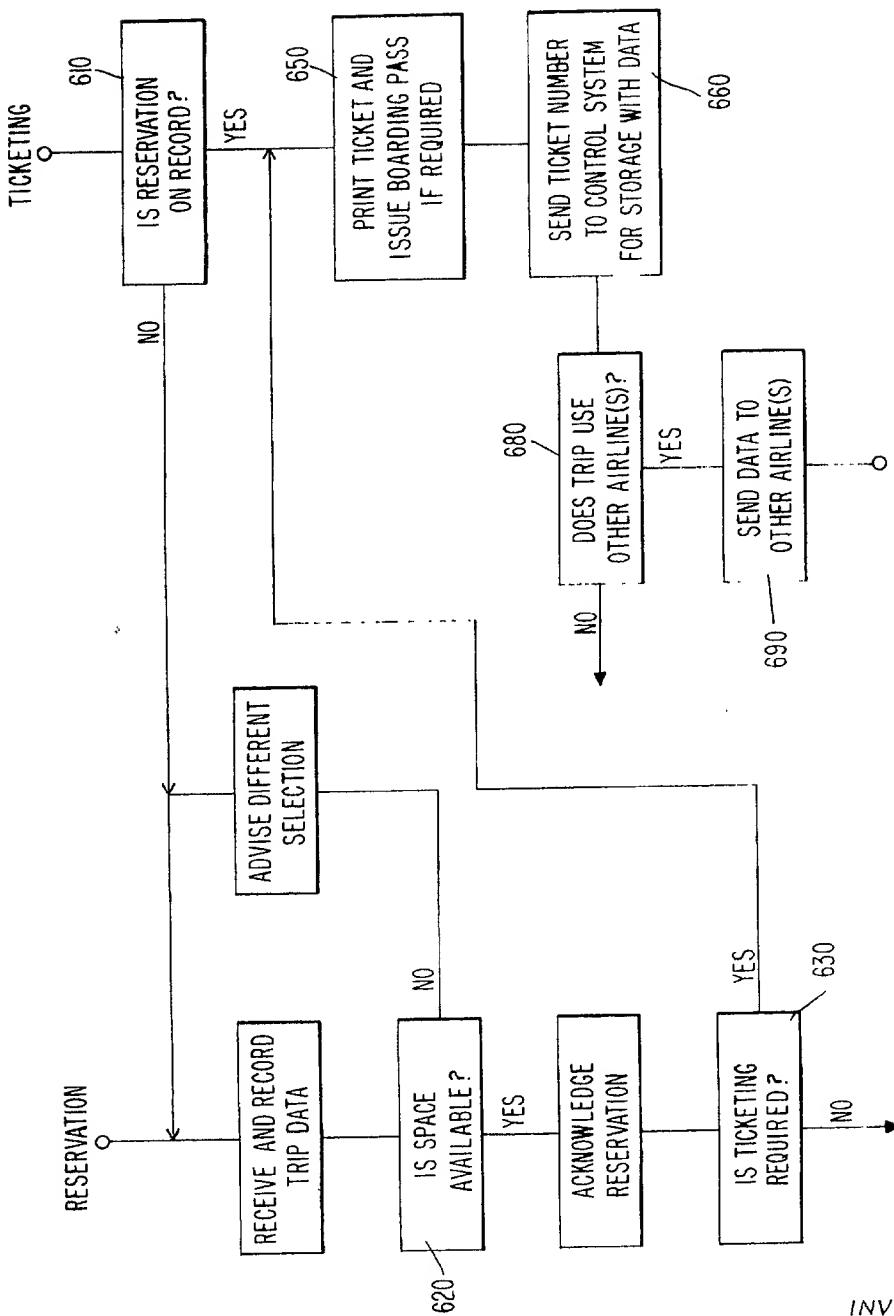


Fig 9

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SHEET 8 OF 8

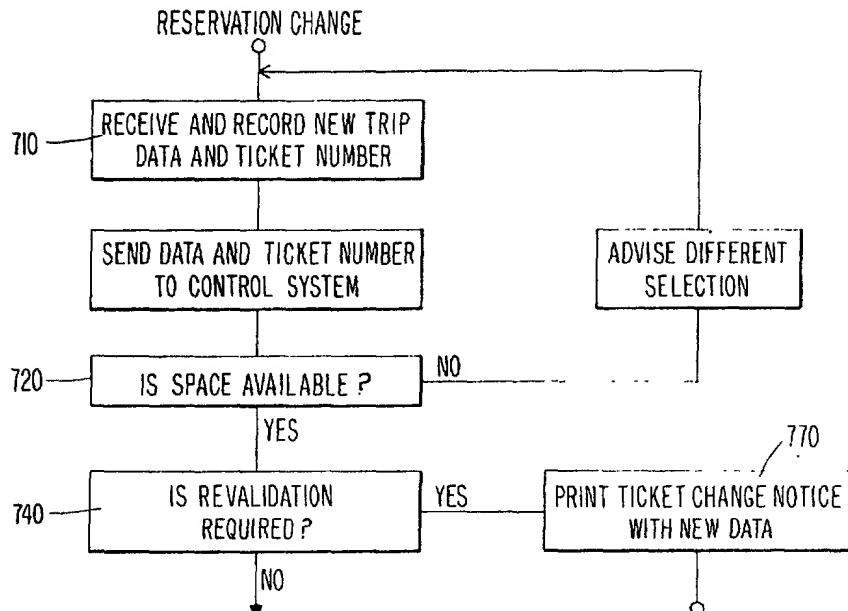


Fig. 10

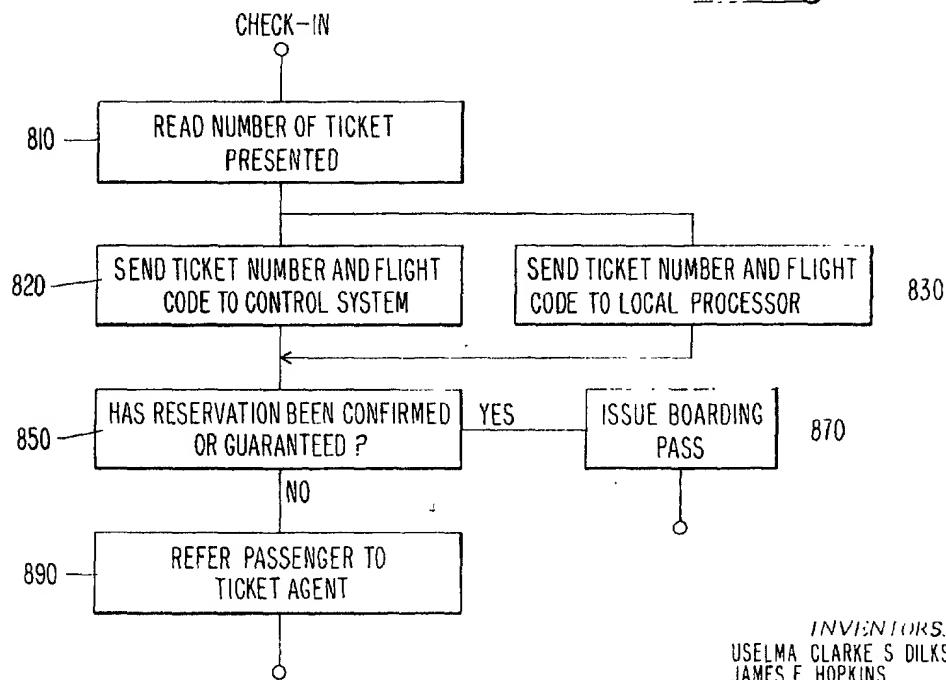


Fig. 11

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AUTOMATIC TICKET/CREDIT CARD CHECK-IN SYSTEM

BACKGROUND OF THE INVENTION

The growth of the airline business in recent years has created serious passenger congestion problems at the airports. This increased congestion will soon prevent continued growth at the same rate as that achieved to date. The advent of increasingly larger aircraft will also make the airport congestion problems more severe due to the larger instantaneous peak passenger loads caused by such aircraft.

The major carriers have recognized the need for improving passenger services at the airports through automation. An extensive analysis of the requirements for such improvements forms the basis for adoption of the present system. This system utilizes a machine-readable ticket and coupon number as a key to passenger records for automatic check-in and boarding, as well as other functions. The number is encoded for optical reading or for magnetic ink character recognition (MICR), which is presently used in banking systems in many countries of the world to process billions of the checks handled by the public each year.

This approach requires only minor modifications to existing tickets, yet it provides a simple, rapid, and dependable means of increasing airport throughput. Cutover can be accomplished in simple steps, without the problems of new procedures and controls which would be involved in ticketing systems more different from procedures currently in use.

The serial ticket number approach is based on many system considerations and trade-offs. Fundamentally, it assumes that ticket data, due to frequent reservation changes, is only system dependable if it is resident in and under the control of the airline system. Thus a simple, rapid means of retrieving the ticket data from a central system is provided to minimize communications costs and to provide rapid system response for airport check-in. Furthermore, the subject system is adapted to cost effectiveness in the broad range of airline requirements, from busy airport ticket offices (ATO's) to small city ticket offices (CTO's) and travel agents. A number of ticketing devices may be provided for the varied requirements and, by preprinting the machine-readable numbers on ticket booklets, handwritten tickets can also be used for automatic check-in and boarding.

When used for the management of a credit card system, the subject invention provides the means for subscribers to obtain information relating to whether the card should be honored, the maximum credit authorized for a prospective customer, and the total amount of outstanding charges accrued by the customer, for example. The system is also adapted to the control of ticket purchases against credit card accounts as well. The obtaining of information from a central data store is needed before extending credit since the cards themselves cannot readily be updated on their face if telephoned purchases on credit are permitted. The card itself would also not indicate whether it had been lost by its authorized user or whether payments had been defaulted.

Long-range requirements are also an important consideration. This new check-in system is compatible with the airline and credit card industry long-range goals of reducing the number of terminal devices required and the attendant communications loads. In a reservation system this is accomplished by reducing the number of tickets issued, foreshadowing the ticket-less airline. They system uses one basic ticket and credit card format on which is imprinted a number or other code that is the key for retrieving all necessary records in the system without reliance on the ticket or card data itself. This number can easily be a credit card number, ticket number, or a personal identification or account number for locating and accessing the relevant reservation or account information.

The use of a simple number key or other code on the ticket or card eliminates the communications problem imposed by other ticketing schemes. In many such schemes, volatile data

must be encoded on a more elaborate ticket. The communications systems would be heavily burdened because it would have to transmit more data from input devices and these devices would be more expensive. Since the cost of such devices cannot be justified at all locations, adoption of such systems also involves the adoption of two fundamentally different ticketing schemes with the attendant complications of different procedures to accommodate them.

Many different ticket layouts may be utilized to implement the present invention in a reservation system. The existing interline data communication system can also be utilized to exchange the serial number and fare basis for ticketing when adopting this invention.

PRESENT RESERVATION SYSTEMS

Many innovations, from curbside baggage checking to "write-your-own" ticketing, are presently being used to relieve some of the airport congestion. The most significant innovation in passenger service to date has been the adoption of large computerized second generation reservation systems. These systems represent an enormous data processing capacity. The implementation of cathode-ray tube (CRT) agent sets and communication networks with these systems represents an information storage and retrieval capacity unequalled in any other industry.

At this writing there are hundreds of CRT agent sets operational in the world and soon many thousands will be serving a number of carriers. Yet planning is underway to augment these systems to provide for fare determination and ticketing in ways not contemplated when the systems were established. These systems represent a large financial investment and an enormous information handling capacity that the present approach utilizes to good advantage.

Passenger congestion is an acute problem during certain periods at some airport stations and is rapidly becoming more and more widespread, both in duration and geographical distribution. In the future, the use of larger aircraft will result in much larger peak volumes at the airports. Passenger load can more than double even with no increase in aircraft departures and arrivals per hour.

One of the most pressing problems is congestion at the check-in counter. This is often relieved by curbside check-in of baggage or by not requiring passengers with only carry-on baggage to check in at all. Much of the remaining load at the ticket counters consists of ticketing operations such as "will calls," reissues, special service tickets, and so forth, often combined with reservation changes. Many of these functions require an inordinate amount of time for even relatively simple transactions when compared to the time required to process the "normal" passenger. Fare determination or redetermination, checking reservations, writing or imprinting documents, removal of coupons and collating and stapling operations cause delays, interfere with the smooth flow of passengers and contribute to long waiting lines. Reduction of these administrative "paperwork" chores for passenger service agents is a vital element in the solution of airport congestion.

Larger aircraft will influence passenger flow at the airports in several ways. Higher peak loads will be experienced in processing passengers. Additionally, for the same payload there will be a reduction in the number of necessary departures, thus encouraging the airlines to use reservation services as an incentive to increase the demand for seats to the available capacity.

For the passenger, boarding and entering new aircraft with wide doors and two aisles, will be more like entering a theatre than a present day aircraft. To achieve rapid boarding, preboarding seat selection will often be used to avoid bottlenecks at the entrances and in the aisles.

One of the basic tenets of the subject invention is that the system be capable of accommodating the volume anticipated during the peak load periods, not merely the volume an-

ticipated during average load periods. The percentages of reissued tickets and of NO-SHOW and GO-SHOW passengers at peak periods is usually quite different from the average mix, and it will be far different from the average during a bad-weather night. For example, the diversion of an aircraft from a planned departure will cause a passenger mix far different from the average. A system using a simple prenumbered ticket record key allows more efficient processing during these unusual peaks.

TICKET ISSUING LOCATIONS

One of the problems confronting such a system is the different requirements of ticket issuers. Of the hundreds of airports served by scheduled air carriers, some of them have far more severe congestion problems than others. Therefore, the establishment of a system for the automation of ticket issuing at the busiest locations should not impose unnecessary expense on the small stations, commercial accounts, and travel agents who, in the aggregate, issue a substantial portion of all tickets. Also, if automated check-in stations in the large airports are to be of most benefit, they must accept a high percentage of the tickets issued by the different types of ticketing stations.

Machine issuing of tickets and machine reading of tickets do not necessarily have to both be performed by all stations. Machine issuing without machine reading could be justified at some locations. Likewise, machine reading may be desirable wherein only a few of the tickets used were machine issued. There are many more stations that need to read tickets electronically than there are that have to issue them automatically.

Another problem for the system is to anticipate the future. Not only does the present system solve the problem of efficiently checking numbered reservation tickets, but it is also adapted to cutover from the present system to a new system, such as a ticketless reservation and check-in procedure.

SUMMARY OF THE INVENTION

According to one embodiment of the present invention, an automatic reservation check-in system issues numbered reservation ticket coupons, stores the ticket data in an automated system and responds to the ticket and coupon numbers preprinted or imprinted at the time of issue to permit boarding of passengers or cargo holding reservations. Both reservation check-in and boarding control are subject to the detection of a properly recorded reservation in the system. Other passengers and cargo not holding reservations can be subsequently boarded to utilize fully the capacity of accommodations available.

The invention is adapted to the reservation and control of accommodations for travel or touring and accommodations in hotels, auditoriums and the like. In addition to being applicable to the automatic check-in of tickets for reservations, the invention is responsive to the use of reservation numbers without tickets or credit card numbers for check-in. Provision is also made for the ready exchange of reservation data between different companies or systems providing different portions or different accommodations of a multisegment reservation.

One embodiment of the present invention includes a computerized reservation system for the storage and retrieval of passenger and cargo reservation data, input apparatus for entering reservation data into the system for storage in relation to an identifying number for each reservation, apparatus for checking reservation or ticket numbers against the numbered reservations stored in the system and means responsive to the reservation checking apparatus for validating admission to the reserved accommodations.

The reservation system may include a data processing system having means for storing a plurality of different numbered reservations for accommodations and means for identifying reservations for accommodations to be provided at the same time. The automatic check-in means may include ticket

number reading apparatus and means for transmitting representative signals to the processing system for comparison with a list or group of reserved accommodations to be provided at the same time.

Additional features and embodiments of the present invention are described and illustrated in the following detailed description and in the accompanying drawings in which:

FIG. 1 is a block diagram of a system which may be utilized to practice the invention;

10 FIG. 2 is a detailed block diagram of a system adaptable for practicing the invention with credit card or bank account numbers being used for identifying and charging reservations or other purchases;

15 FIG. 3 is a detailed block diagram of apparatus included in an airline reservation system embodiment of the invention;

FIGS. 4 and 5 are illustrations of different ticket formats each carrying a ticket or code number for identifying the corresponding stored reservation for automatic check-in at the airport;

20 FIGS. 6-8 are representations of the passenger interface with, and the flow of data and control signals in, a system for practicing the invention;

FIGS. 9-11 are logic diagrams illustrating the programmed response of a reservation system for practicing the invention.

25 The system illustrated in FIG. 1 is organized for the storing of numbered reservations, the issuance of numbered tickets corresponding thereto and the automatic check-in of passengers and cargo holding reservations for transportation by aircraft. It is of course adaptable to the similar handling of reservations for other types of transportation or facilities. The system includes a central data processing system 20, a reservation and communications system 40, a local data storage and control system 60 and an airport terminal system 80.

30 35 Data processor system 20 is comprised of central data store 25 interconnected with central processor 30. The central data store contains reservation files for storing passenger information in the form of passenger name records and numbered reservations, data on flight capacities and data relating to the status of reservations. Also recorded in the central data store are tariff data and fare computation tables for use in pricing individual reservations.

35 40 Central processor 30 may be interconnected with the reservations system of other airline companies (OAL) in addition to being interconnected with the other portions of the system. The central processor receives input information for updating records in the central data store from reservation ticketing system 40 and transmits data to inquiring reservation and ticketing stations and to local storage and control system 60.

45 50 Reservation office 40 includes multiplexer 44 of any suitable well-known design interconnected with ticket printer 42 and with telephone agent sets 46 and 48 over cable 45. The agent sets transmit reservation input data for storage in the system and retrieve information from the central processor system for use in making reservations, for ticketing and for billing. The key number used for identifying each reservation to be stored in the system may be determined by the number appearing on preprinted ticket or coupon stock provided to the reservation office, may be obtained from the central processing system or may be selected from a list of reservation numbers that are available. An example of an agent set suitable for use in this invention may be seen in Lasoff et al U.S. Pat. application Ser. No. 613,264, filed Feb 1, 1967, for "Display Unit," assigned to the same assignee as this invention.

55 60 Local storage and control system 60 is comprised of I/O controller and switch 62 interconnected with local stores 64 and may further include a local processor 66 interconnected with the local store. Airport terminal system 80 includes ticket printer 82, agent ticketing station 84 which may comprise an agent set, self-ticketing apparatus 86, boarding agent station 92 and automatic turnstile 94, each interconnected with I/O controller and switch 62 by cable 70. An example of an I/O controller and switch may be seen in Belcher et al U.S. Pat. application Ser. No. 652,759, filed July 12, 1967, for "Com-

communications System and Remote Scanner and Control Units,"
assigned to the same assignee as this invention.

The I/O controller and switch 62 operates to transfer flight data from the files of central data store 25 for storage in local data store 64. This may be either a preselected time before departure of the flight or as soon as space for it becomes available in the local store. Boarding control is then under immediate control of the files stored in the local store. I/O controller 62 also transmits data between central processor system 20 and the apparatus of airport terminal system 80. The I/O controller and switch also directs the transmission of data between different airport terminal apparatus including local processor 66 during ticketing, check-in, and boarding. The various flight data held in local store 64 may alternatively be updated and character recognition data analyzed by local process 66 to which it may be routed by I/O controller and switch 62. Information relating to individual reservation is entered into the data processing system either by agent sets 46, 48, by agent ticketing station 84 or by self-ticket apparatus 86 which may be located at airline city ticket offices or at the airport terminals. Data corresponding to an identifying reservation number is transferred to the data processing system and the number is also imprinted on the ticket by printer 82 if not preprinted on the ticket stock. These ticket numbers are read at boarding agent stations 92 at the time of check-in and by automatic turnstile 94 at the time of boarding. Alternatively, boarding agent station 92 may be caused to issue a special boarding pass after a reservation has been checked-in which must then be presented at the automatic turnstile 94 to gain admission to the aircraft.

The function of self-ticket apparatus 86 is to automatically provide a single segment machine-issued ticket to a passenger who provides a machine-readable numbered credit card and the necessary data for ticketing and reservation. The corresponding data files are held in central data store 25 and are checked by central processor 30 responsive to operation of the self-ticket apparatus. Central processor 30 also retrieves and updates the passenger and flight data files in the central data store upon entering each reservation and printing a ticket therefor. The flight files may alternatively be updated and otherwise processed by local processor 66 through its interconnection with local store 64.

The system illustrated in FIG. 2 includes first and second reservation offices 120 and 150 interconnected with a central data processor system 180 for automatically handling reservations or other purchases without reliance on tickets. Communication bus 100 transmits data and control signals between modulator-demodulators (modems) 122, 152 and 182. Other terminals may likewise be connected to transmission bus 100 through a similar modem.

Terminal stations 120 and 150 include multiplexers 124, 154, Agent Sets 126, 128, 156, and Credit Card Readers 132, 134, 162 and 164. Additionally, station 120 includes printing calculator terminal 130 interconnected with multiplexer 124 and station 150 includes terminal computer 160 and teletypewriters 166 and 168 interconnected with multiplexer 154.

Central processor system 180 includes central processor 190 interconnected with modem 182, central data store 195 and multiplexer 184. This multiplexer is further interconnected with check reader 186, credit card reader 188, agent set 196 and printer 198. In the operation of the apparatus of FIG. 2 as a reservation system, trip data is transmitted from agent sets 126, 128, 156 to central processor 190. This causes the reservation to be stored in central data store 195 if space is available and the agent set is signalled that the reservation is made. Otherwise, the central processor signals the requesting agent set to make another selection. The identifying code or number for the reservation can then be transmitted to the data processor system by the person operating the agent set from a list of available reservation codes or numbers. Alternatively, the reservation can be identified by a credit card account number or bank account number which can be read by credit card readers 132, 134, 162 or 164.

Automatic check-in of these reservations can be initiated through agent sets 126, 128, 156, 196 or through credit card readers 132, 134, 162, 164 and 188. Check-in can also be initiated through teleprinters 166 and 168. Any one of these units can transmit the identifying code or number of the reservation for comparison against a list of reservations for the same flight or departure. Upon detection of a match between a reservation code or number and a reservation stored in central data store 195, central processor 190 transmits a signal validating admission to the reserved accommodation.

Printing calculator terminal 130 and terminal computer 160 are provided for controlling or performing any computations or processing which is required at the terminal stations of the system. These calculations may include certain fare and tariff calculations for passengers and freight. Such local processing may include handling passenger boarding conditions and various other processing relevant primarily to the local stations. An example of a printing calculator terminal may be seen in Looschen et al. U.S. Pat. No. 3,417,387, issued on Oct 22, 1968, for "On-Line Banking System." An example of a terminal computer suitable for use in this invention as either a computing terminal or as a ticketing device may be seen in Perkins et al. U.S. Pat. application Ser. No. 723,088, filed on Apr. 22, 1968, for "Data Processing Apparatus," assigned to

When the system of FIG. 2 is used as an accounting system for charging purchases against charge accounts or bank accounts, the input information is entered into the central processor system by the various agent sets and the account is identified either through the agent set or through one of the credit card number readers. In such case, central data store 195 stores the information relevant to each of the accounts and central processor 190 updates the account balances in response to signals representing new purchases and payments, subject to control codes stored with the account data. Payments into such accounts may be credited through the operation of check reader 186 either alone or in concert with credit card number reader 188 for identifying the account. Payments to the account may also be entered through agent set 196 by way of multiplexer 184, as well.

The airline reservation and control system shown in FIG. 3 is comprised of city ticket office 200 and airport terminal office 240 each interconnected with central control system 280 over bus 210 through modems 202, 242 and 282. Any desired number of additional ticketing offices or stations can also be connected onto bus 210 through suitable communication adapters. The selling of reservations, printing of tickets and acceptance of reservation changes, etc., can be performed at any of the ticketing offices or airport terminals which are connected in the system.

City ticket office 200 is comprised of agent sets 212, 214, 220, ticket printer 216, ticket printing calculator 220 and teleprinters 234, 235 and 236, each being interconnected with modem 202 through multiplexer 204.

Central control system 280 is comprised of data processor 290 and memory 295 each interconnected with modem 282 and message switch 284 which is adapted to be connected to reservation or communications systems of other airlines (OAL). Memory 295 contains fields for storing passenger name and flight files in addition to any other data desired for the reservation ticketing and boarding control function. Data processor 290 is responsive to inquiries from other units in the system through modem 282 for supplying or receiving data relating to the reservation files in memory 295 and for performing fare and tariff calculations for reservation and ticketing stations. Data processor 290 may also be programmed to perform periodic checking of stored reservations for expired ticket time limits or expired confirmation time limits and other controls relevant to particular flights. Such control processing by the data processor may be programmed for automatic operation responsive to a critical booking level of reservations on individual flights, for example.

Airport terminal office 240 is comprised of self-operated ticketing unit 255 including credit card reader 250, keyboard input unit 252, display unit 254, and ticket printer and boarding pass issuer 256, and terminal computer 260, ticket number reader 270, boarding pass issuer 272 and boarding gate apparatus 276, together with agent sets and ticket printers, each interconnected with modem 242 by way of multiplexer 244. Ticket number reader 270 communicates information signals to the central control system which correspond to the reservation numbers of tickets presented to it. Data processor 290 then analyzes the raw data signals for symbol recognition if not done by the reader itself in the automatic check-in operation. Reader 270 may also partially process the raw input data signals and, in concert with boarding pass issuer 272, prepare passengers or cargo for boarding either at the time of automatic check-in of the reservation or subsequently. Boarding gate apparatus 276 is responsive to boarding passes or the ticket itself, if desired, to control admission to the aircraft subject to control by the system.

Data relating to a passenger's itinerary together with a request for a reservation may be inserted into the system either by the agent sets of city ticket office 200, by the agent set at the airport terminal office or through credit card number reader 250 and keyboard input unit 252 of self-operated ticketing station 255 at the airport terminal. Once a suitable reservation is found to be available from the data processor, the necessary passenger identification and reservation data, including the ticket or reservation number, is communicated to the central control system for storage in the memory in relation to the number. Subsequently, the reservation data can be interrogated by an agent set, keyboard unit or ticket number reader when changing reservations and entering new information or performing automatic check-in in preparation for boarding. The number read from the ticket or entered by keyboard is used as a code number for identifying and locating the reservation stored in the memory in these operations. This technique of accessing numbered reservations stored in the control system may also be used at boarding gate apparatus 276 for controlling the admission to the reserved accommodations.

FIGS. 4 and 5 illustrate two representative ticket formats each carrying a ticket or reservation code number suitable for use in practicing the invention. In the representative ticket of FIG. 4 the reservation or ticket code number appears in the middle of the ticket at the bottom. The number includes fields signifying the coupon number of the ticket, the airline identifying number and a larger field which indicates the ticket form and an arbitrary serial number. A check digit useful for checking the accuracy of transmission of the number in the system is appended to the number. Such ticket coupons may be available in bound booklets of four, eight or 12 coupons, for example, for use with any desired multisegment itineraries. Any coupons in such a booklet unnecessary for a given itinerary are removed from the booklet and destroyed before issue to the passenger. Identification of the issuing airline in the ticket number is desirable for interline billing purposes and for assuring the transmission of reservation data and changes between different airlines involved in the itinerary for reservation updating purposes, etc. In the case of ticket booklets as in FIG. 4, the ticket number is ordinarily preprinted individually on each coupon in order to assure machine readability of the number on each coupon.

FIG. 5 illustrates a representative single coupon multisegment machine-readable ticket for use in practicing the subject invention. The ticket or reservation code number in this format appears in the upper right-hand corner of the ticket in optical character (OCR) format and the lower right-hand corner in MICR format. This ticket number can also be formed of different fields for indicating desired information such as the coupon number, identity of the issuing airline, ticket form number, class of reservation, miscellaneous baggage information, together with a serial number. The number on single coupon tickets may be either preprinted or imprinted at the time of the issue.

The ticket number may be used either as an address at which the reservation is stored in the memory of the central processor system or as a key member for storage in an associative memory together with the data to enable access to the data for checking, changing or automatic check-in of the reservation. The single coupon ticket of FIG. 5 may also be used as the boarding pass itself for insertion into a turnstile such as automatic turnstile 94 of FIG. 1 indicated on the right edge of the ticket number. The number is simply read and transferred to the control system together with identification of the flight for allowing admission to the reserved accommodation.

FIG. 6 illustrates the passenger interface and flow of data and control signals in a system for practicing the invention. The first contact that passenger 301 makes with the system is with reservation office 310 by telephone, from which a request for a reservation is sent to central processor system 320 by an agent set. Reservation data for an available accommodation together with an identifying number is stored in the central processor system. Before the flight, the passenger may contact any such reservation office 310, city ticket office 330 or airport terminal office 350 or 360, for example, for checking on the status of his reservation or of any of the flights involved or to change his reservation in any particular if the desired accommodation is available. The passenger can also be required to confirm his reservation during a given period before each flight at any of these offices. During each contact with the system the desired information may be obtained merely by transmitting to the central processing system the ticket code number along with a request for the desired data.

On the day of boarding the passenger may be permitted to simply insert his ticket into automatic turnstile 380 for gaining admission to the aircraft or, if desired, the passenger may be required to present his ticket to either airport ticket office station 350 or to self-service check-in station 360 a given time before the flight to allow for automatic check-in based upon the ticket number. He may further be required to subsequently present his ticket to such a station for the lift or surrender of his ticket and for receiving a boarding pass provided for his flight to be used at automatic turnstile 380. Each time the reservation is checked or a ticket is presented for automatic checking or boarding pass issuance, only the ticket number need be read and transferred to the system together with a signal indicating the operation to be performed. This provides a great savings in reading and communications time and in expense of the operation. Also, each operation is advantageously under control of central processor system 320. Any time that a ticketed reservation cannot be processed due to difficulties in communication, reading or matching a reservation to the ticket number, the passenger will be directed to an airline agent for handling the operation. The probable point of ticket purchase is at the airport ticket office for multisegment ticketing and at the self-service ticketing station for a single-segment ticketing, although ticket purchase is also available at the city ticket office if convenient for the passenger.

FIGS. 7 and 8 illustrate passenger interface and signal flow in a portion of a system similar to that of FIG. 6 in which a passenger does not hold a reservation or holds an OAL reservation, respectively. Each of the components of the system of FIGS. 7 and 8 are numbered similarly to the corresponding component of FIG. 6, with only the first digit changed. Boarding area check-in station 570 is additionally included in the system of FIG. 8 for providing automatic check-in and boarding control of passengers holding reservations from other airlines prior to use of automatic turnstile 580. In this instance, a boarding pass issue procedure may be desirable due to possible difficulties and complexities in reading tickets issued by other airlines at the boarding control area. Each of the component units of FIGS. 6-9, of course, may include or utilize the corresponding apparatus of FIGS. 1-3.

If a passenger holds a reservation, he presents himself to either airport ticket office 450 or self-service ticketing station 460 in order to obtain space available on a flight and purchase

a ticket. His trip data together with an identifying reservation number is transferred to the system just as in the case of advanced reservations. This operation also satisfies the requirement of check-in since the flight accommodation obtained would ordinarily have a departure time within the period ordinarily designated for check-in. Passengers need merely proceed to a unit such as self-service check-in station 460 for system boarding control or obtaining a boarding pass. He then proceeds to automatic turnstile 480 for admission to the aircraft.

In the case of passenger 501 who holds an OAL reservation, he presents his ticket at either airport ticket office 550 or boarding area check-in station 570 for automatic check-in and boarding control by the airline about to provide the reserved accommodation. Central processor system 520 will have previously received the reservation data together with the identifying reservation number from the other airline and will thus be prepared to respond to the presentation of the ticket to enable boarding of the aircraft. The automatic check-in and boarding control will therefore proceed on the ticket key number basis just as for every other reservation in the system. It is probable that self-service ticketing station 460 will ticket the majority of GO-SHOW passengers not holding a reservation and who present a credit card for purchase of accommodations due to the high percentage of single segment trips under these circumstances. If a passenger holds an OAL ticket he may likewise bypass airport ticket office 550 ordinarily located in the lobby area of the airport terminal and will interface with boarding area check-in and control station 570 before proceeding to automatic turnstile 580.

FIGS. 9-11 illustrate a representative programmed or logic-controlled response of reservation systems provided for practicing the invention. The system receives and records the trip data for a desired reservation and responds at time 620 to indicate whether or not the requested accommodation is available. If it is not, the system advises a different selection. Alternatively, each available flight for a requested trip segment may be displayed for selection of one by the passenger. Once a reservation for an accommodation is accepted and acknowledged, the system determines at time 630 whether or not printing is required. If it is, the system proceeds to step 650 for printing the ticket and issuing a boarding pass, if required.

If the reservation and ticketing operations are separated, then the system first determines whether a reservation is on record at time 610 prior to ticketing and proceeds to step 650 if a reservation is located. If there is no reservation on record the system proceeds to receive and record the data and to record a reservation for an available accommodation prior to ticketing. Once the ticket is printed at step 650, the system proceeds to send the ticket number to control system at time 660 in order that the reservation data may be stored in relation to its identifying code number. The system then determines at time 680 whether the trip or itinerary uses facilities of other airlines at step 690 if appropriate.

As is indicated in FIG. 10, the system responds to a request for a reservation change by receiving and recording the new trip data together with the previously provided ticket number at time 710 and proceeds to determine at time 720 whether or not the desired new accommodation is available. If it is, the system proceeds to record and acknowledge the reservation and to determine whether revalidation is required at time 740. If it is, the system proceeds at time 770 to print a ticket change notice with the new data or prints an entirely new ticket, if desired, at step 770.

As indicated in FIG. 11, when a passenger presents his ticket for automatic check-in at time 810 the system reads the ticket number. The number is sent together with identification of the flight to the central control system at step 820 or to the local processor at step 830 depending upon whether or not the system utilizes a local processor as in FIG. 1. It then proceeds to determine whether or not the reservation has been confirmed or guaranteed at step 850. In adapting the invention to

handle reservations without ticket issuance, the system simply transmits the reservation code or number to the central processor system or the local processor for check-in of the reservation from a keyboard or credit card reader in lieu of reading a ticket. If a reservation has been confirmed or guaranteed, the system proceeds to issue a boarding pass at time 870. If the reservation was not confirmed or guaranteed, the system refers the passenger to an airline ticket agent at step 890.

10 Of course many variations and modifications of the subject invention are possible in light of the above teachings. It is, therefore, to be understood that within the scope of the appended claims the invention may be practiced otherwise than as specifically described.

15 We claim:

1. An automatic reservation check-in system comprising: a data processing system having memory means for storing information relating to a plurality of reservations for accommodations to be provided at different times, means responsive to a request for a reservation for issuing a ticket bearing a code number identifying reservation information, input means for providing reservation information to said processing system for storage in said memory means in relation to said identifying reservation code number, automatic check-in means for comparing reservation code numbers presented thereto with the code numbers of stored reservations relating to similar accommodations, and means responsive to the detection of correspondence between a reservation code number presented to the check-in means and a stored reservation for automatically controlling the grant of the reserved accommodation.

2. The automatic reservation check-in system of claim 1 wherein the data processing system further comprises means for providing different lists of numbered reservations for accommodations to be provided for the same class and the check-in means identifies the class of the reservation number presented.

3. The automatic reservation check-in system of claim 1 wherein the reservation code number appears on a ticket in a machine-readable font and the automatic check-in means comprises ticket number reader apparatus.

4. The automatic reservation check-in system of claim 1 wherein the reservation code number appears in magnetic ink, character recognition (MICR) font and contains information relating to the identity of the issuing system and a serial field which is arbitrary with respect to the reserved accommodation to which it is assigned by the system.

5. An automatic reservation check-in system comprising: a data processing system having means for storing information relating to a plurality of reservations for different dated accommodations and means for identifying reservations for accommodations to be provided at the same time, means responsive to a request for a reservation for issuing a code number identifying reservation information, input means for entering into the information storage means a plurality of different reservations each together with a unique ticket reservation code,

automatic check-in means for sensing and comparing reservation code numbers, when presented, with that of stored reservation for accommodations to be provided at that time, and means for indicating correspondence between a stored reservation and a reservation code number presented

6. The automatic reservation check-in system of claim 5 wherein said code issuing means issues a ticket code number which is arbitrary with respect to the reserved accommodation and is serial in part.

7. The automatic reservation check-in system of claim 5 wherein the data processing system further comprises means

for providing different lists of numbered reservations for accommodations to be provided for the same class and the check-in means identifies the class of the reservation number presented.

8. The automatic reservation check-in system of claim 5 wherein the reservation code number appears on a ticket in a machine-readable font and the automatic check-in means comprises ticket number reader apparatus.

9. The automatic reservation check-in system of claim 5 wherein the reservation code number appears in magnetic ink character recognition (MICR) font and contains information relating to the identity of the issuing system and a serial field which is arbitrary with respect to the reserved accommodation to which it is assigned by the system.

10. An automatic reservation check-in system comprising:
addressable memory means for storing information relating to a plurality of different reservations for accommodations,
means responsive to a request for a reservation for issuing a code number identifying reservation information,
input means for entering reservation information into said memory means for storage in relation to said identifying reservation code for each such reservation,
means for automatically checking reservation codes against the reservations stored in the memory means when the codes are presented for use of a specific accommodation, and
means responsive to the reservation checking means for validating the grant of the reserved accommodation corresponding to the reservation code presented.

11. The automatic reservation check-in system of claim 10 wherein the reservation code number appears on a ticket in a machine-readable font and the automatic check-in means comprises ticket number reader apparatus.

12. The automatic reservation check-in system of claim 10 wherein the reservation code number appears in magnetic ink character recognition (MICR) font and contains information

relating to the identity of the issuing system and a serial field which is arbitrary with respect to the reserved accommodation to which it is assigned by the system.

13. An automatic reservation check-in system comprising:
a data processing system having means for storing information relating to a plurality of different numbered reservations for accommodations and processing means programmed to identify a particular reservation, responsive to signals representing a corresponding reservation number,

means responsive to a request for a reservation for issuing a code number identifying reservation information, input means for providing to the storage means reservation information to be stored in relation to said identifying reservation number, and
automatic check-in means responsive to reservation code numbers presented thereto and providing corresponding signal representations to said programmed reservation identification means of the processing system to control the grant of the reserved accommodations identified by the reservation code numbers presented.

14. The automatic reservation check-in system of claim 13 wherein the data processing system further comprises means for providing different lists of numbered reservations for accommodations to be provided for the same class and the check-in means identifies the class of the reservation number presented.

15. The automatic reservation check-in system of claim 13 wherein the reservation code number appears on a ticket in a machine-readable font and the automatic check-in means comprises ticket number reader apparatus.

16. The automatic reservation check-in system of claim 13 wherein the reservation code number appears in magnetic ink character recognition (MICR) font and contains information relating to the identity of the issuing system and a serial field which is arbitrary with respect to the reserved accommodation to which it is assigned by the system. *

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...the 25th day of May, 1968, in the City of New York, State of New York, in the County of New York.

H

United States District Court,
E.D. Pennsylvania.

Ronald A. KATZ, Technology Licensing, L.P., and
MCI Telecommunications
Corporation, Plaintiffs,
v.
AT & T CORPORATION, et al., Defendants.

No. CIV. A. 97-4453.

Aug. 26, 1999.

Owner of patents for interactive voice response system sued telephone company for infringement. The District Court, Lowell A. Reed, Jr., Senior District Judge, construed claim language.

Claims construed.

West Headnotes

[1] Patents 314(5)
291k314(5) Most Cited Cases

Construction of patent claims is exclusively within province of court to determine as matter of law.

[2] Patents 159
291k159 Most Cited Cases

[2] Patents 165(1)
291k165(1) Most Cited Cases

[2] Patents 167(1)
291k167(1) Most Cited Cases

[2] Patents 168(2.1)
291k168(2.1) Most Cited Cases

In construing patent claim, court should consider claim language, specification, and, if offered, prosecution history, which are collectively considered intrinsic evidence of meaning of claim terms; under some circumstances, court may also consult evidence extrinsic to patent, such as technical dictionaries or expert testimony as to how those skilled in relevant art under consideration would interpret claims.

[3] Patents 161
291k161 Most Cited Cases

Absent special and particular definition created by patent applicant, term in patent claim is construed to mean what person of ordinary skill in art at time of invention would have understood term to mean.

[4] Patents 157(1)
291k157(1) Most Cited Cases

Unless otherwise compelled, court should give full effect to ordinary meaning of patent claim terms, even if terms are broad.

[5] Patents 162
291k162 Most Cited Cases

[5] Patents 167(1)
291k167(1) Most Cited Cases

[5] Patents 168(2.1)
291k168(2.1) Most Cited Cases

Once court construing patent terms has determined ordinary meaning of the claim term, it must also consider specification and prosecution history to determine if patentee used term in manner inconsistent with its ordinary meaning.

[6] Patents 167(1.1)
291k167(1.1) Most Cited Cases

One may not read limitation into patent claim from written description, but one may look to written description to define term already in claim limitation, for claim must be read in view of specification of which it is part.

[7] Patents 167(1)
291k167(1) Most Cited Cases

While additional limitations may not be imported into patent claim from specification, court may construe limitation specifically recited in claim in light of specification.

[8] Patents 167(1.1)
291k167(1.1) Most Cited Cases

In order to inject definition into patent claim from written description, claim must explicitly contain term in need of definition.

[9] Patents 167(1.1)
291k167(1.1) Most Cited Cases

Patent claim term should not be narrowed by content of specification unless language of claim invites reference to those sources.

[10] Patents  162
291k162 Most Cited Cases

Patent claim term may be given definition other than its ordinary meaning if patentee chooses to be his or her own lexicographer by explicitly setting forth definition in specification, or if terms chosen by patentee so deprive claim of clarity that there is no means by which scope of claim may be ascertained from language used.

[11] Patents  168(2.1)
291k168(2.1) Most Cited Cases

Prosecution history cannot enlarge, diminish, or vary limitations in patent claims.

[12] Patents  168(2.1)
291k168(2.1) Most Cited Cases

Court construing patent claim may consider prior art cited in prosecution history, which may contain clues as to what claim does not cover.

[13] Patents  168(2.1)
291k168(2.1) Most Cited Cases

If patent applicant takes position before Patent and Trademark Office, such that competitor would reasonably believe that applicant had surrendered relevant subject matter, applicant may be barred from asserting inconsistent position when issued patent is subsequently construed.

[14] Patents  168(2.1)
291k168(2.1) Most Cited Cases

Unless altering claim language to escape examiner rejection, patent applicant only limits claims during prosecution by clearly disavowing claim coverage, that is, by making statement that concedes or disclaims coverage of claims at issue based on piece of prior art.

[15] Patents  159
291k159 Most Cited Cases

Extrinsic evidence is to be used for court's understanding of patent, not for purpose of varying or contradicting claim terms.

[16] Patents  159
291k159 Most Cited Cases

Extrinsic evidence may be consulted if court is not familiar with terminology of art in which patent is written, but it should not be consulted to clarify ambiguity in claim terms.

[17] Patents  159
291k159 Most Cited Cases

Where patent documents are unambiguous, expert testimony regarding meaning of claim is entitled to no weight.

[18] Patents  101(8)
291k101(8) Most Cited Cases

Presumption that use of term "means" in patent claim invokes means plus function limitations may be rebutted if claim recites no function which corresponds, or if claim recites function but also recites sufficient structure or material for performing claimed function. 35 U.S.C.A. § 112.

[19] Patents  101(8)
291k101(8) Most Cited Cases

Structural term in patent claim need not connote precise physical structure to those of ordinary skill in art in order to avoid means-plus-function analysis, so long as it conveys variety of structures that are referred to by that term. 35 U.S.C.A. § 112.

[20] Patents  226.7
291k226.7 Most Cited Cases

If structure is defined in patent specification in way unrelated to recited function in means-plus-function clause in claim, those additional aspects of structure should not be read as limiting scope of means clause. 35 U.S.C.A. § 112.

[21] Patents  101(8)
291k101(8) Most Cited Cases

In construing means plus function claims, generally a court should not import function of working device or preferred embodiment into claims as part of "means" if such function is not part of function recited in claims. 35 U.S.C.A. § 112.

[22] Patents  101(2)
291k101(2) Most Cited Cases

"Communication facility," called for in patent claims for interactive voice response system, was that part of telephone network that enabled caller to connect to patented system; term did not encompass elements or processes of entire public switched telephone network, or require that system be operated only outside network.

[23] Patents  101(2)
291k101(2) Most Cited Cases

"Interface structure" for analysis control system, called for in patent claims for interactive voice response system, referred to hardware and software required to connect processors upon which system was running to communication facility such that information from facility and remote terminals could be provided to and received by system; in context, phrase also included means to perform specific function of providing caller data signals representative of data developed at remote terminals, and means to perform specific function of receiving calling number identification data.

[24] Patents  101(8)
291k101(8) Most Cited Cases

Critical factor in determining whether term in patent claim limitation which does not invoke "means for" language is subject to means-plus-function analysis despite contrary presumption is whether term brings to mind set of structures to those of ordinary skill in art, and not whether term is written in functional language. 35 U.S.C.A. § 112.

[25] Patents  101(2)
291k101(2) Most Cited Cases

"Means to provide caller data signals" and "means to receive calling number identification data," called for in patent claims for interactive voice response system, were limited to disclosed structures which specifically performed those functions. 35 U.S.C.A. § 112.

[26] Patents  101(2)
291k101(2) Most Cited Cases

"Voice generator" for analysis control system, called for in patent claims for interactive voice response system, meant device for generating vocal instructions or prompts to individual callers at remote terminals.

[27] Patents  101(2)

291k101(2) Most Cited Cases

"Record structure" for analysis control system, called for in patent claims for interactive voice response system, referred to means for entering or making use of files, but did not delineate or restrict types of functions that could be performed on files once they were accessed.

[28] Patents  101(2)
291k101(2) Most Cited Cases

"Qualification structure" for analysis control system, called for in patent claims for interactive voice response system, was limited to disclosed structures which performed function of controlling access to system by individual callers. 35 U.S.C.A. § 112.

[29] Patents  101(2)
291k101(2) Most Cited Cases

"Means for selecting," called for in patent claims for interactive voice response system, was limited to disclosed structures which specifically performed function of selecting format based on called number. 35 U.S.C.A. § 112.

[30] Patents  101(2)
291k101(2) Most Cited Cases

"Switching structure" for analysis control system, called for in patent claims for interactive voice response system, meant device, including hardware and associated software, that could switch or route telephone calls or signals from one location or connection to another.

[31] Patents  101(2)
291k101(2) Most Cited Cases

"Record testing structure" for analysis control system, called for in patent claims for interactive voice response system, was limited to disclosed structures which specifically performed function of receiving and testing signals against stored data. 35 U.S.C.A. § 112.

[32] Patents  101(2)
291k101(2) Most Cited Cases

Term "processing," called for in patent claims for interactive voice response system, meant manipulation of data which performed some operation or sequence of operations on data.

[\[33\] Patents](#)  101(2)
[291k101\(2\) Most Cited Cases](#)

Term "format," called for in patent claims for interactive voice response system, meant computer program that set forth content and sequence of steps to gather information from and convey information to callers through pre-recorded voice prompts and messages.

[\[34\] Patents](#)  101(2)
[291k101\(2\) Most Cited Cases](#)

"Multiple formats" or "plurality of formats," called for in patent claims for interactive voice response system, meant more than one format; terms did not include subroutines or branching within single format.

[\[35\] Patents](#)  101(2)
[291k101\(2\) Most Cited Cases](#)

"Remote terminals," called for in patent claims for interactive voice response system, meant devices or instruments for connecting callers to telephone network for voice and digital communication, including, but not limited to, conventional telephones.

[\[36\] Patents](#)  101(2)
[291k101\(2\) Most Cited Cases](#)

"DNIS" and "called number identification data," called for in patent claims for interactive voice response system, were synonymous, and meant signal or data that identified number called.

[\[37\] Patents](#)  101(2)
[291k101\(2\) Most Cited Cases](#)

"ANI" and "calling number identification data," called for in patent claims for interactive voice response system, were synonymous, and meant signal that identified calling number, i.e., number from which call originated.

[\[38\] Patents](#)  101(2)
[291k101\(2\) Most Cited Cases](#)

"In-band" or "out-of-band" signaling, called for in patent claims for interactive voice response system, did not require or exclude any particular manner of transmission or type of signaling.

[\[39\] Patents](#)  101(2)

[291k101\(2\) Most Cited Cases](#)

"Consumable participation key," called for in patent claims for interactive voice response system, meant number or word that allowed caller access to service or part of service predefined limited number of times and which could not be refreshed or recharged.

[\[40\] Patents](#)  101(2)
[291k101\(2\) Most Cited Cases](#)

"Limit on use," called for in patent claims for interactive voice response system, meant control that limited caller's access to service based on some predetermined method of measuring level of use; term was not restricted to specific method of measuring use, such as limited number of accesses into system.

[\[41\] Patents](#)  101(2)
[291k101\(2\) Most Cited Cases](#)

"Products carrying participation numbers," called for in patent claims for interactive voice response system, meant physical items sold or exchanged in commercial setting which carried number allowing participation in system.

[\[42\] Patents](#)  101(2)
[291k101\(2\) Most Cited Cases](#)

"Accounting data," called for in patent claims for interactive voice response system, meant information relating to computation of data.

[\[43\] Patents](#)  101(2)
[291k101\(2\) Most Cited Cases](#)

"Operations of an interface," referred to in patent claims for interactive voice response system, meant processes, activities, or functions of interactive connection between processors upon which system was running, communication facility, and callers; phrase did not require that system be running one of the formats disclosed in the specifications.

[\[44\] Patents](#)  101(2)
[291k101\(2\) Most Cited Cases](#)

"Answer data," called for in patent claims for interactive voice response system, meant responses from callers to vocal questions or prompts.

[\[45\] Patents](#)  101(2)
[291k101\(2\) Most Cited Cases](#)

"Testing the selected format," called for in patent claims for interactive voice response system, meant method by which it was determined whether any conditions associated with format that had been selected by call data signals were satisfied.

[46] Patents  **101(11)**
291k101(11) Most Cited Cases

Where plain meaning of method claim language indicates sequential nature to claim steps and specification does not suggest otherwise, steps must be performed in order written in claim.

[47] Patents  **101(11)**
291k101(11) Most Cited Cases

Basic steps listed in method claims of patents for interactive voice response system, i.e., receiving call data signals, selecting format, testing selected format, and conditionally interfacing, had to be performed sequentially; additional steps listed in claims, however, did not have to be performed in any particular order.

[48] Patents  **101(2)**
291k101(2) Most Cited Cases

"Call data signals," called for in testing step of patent claims for interactive voice response system, referred to number from which call originated.

[49] Patents  **101(2)**
291k101(2) Most Cited Cases

"Conditionally interfacing," referred to in patent claims for interactive voice response system, meant connecting call to selected format once any conditions associated with that format had been satisfied.

[50] Patents  **101(2)**
291k101(2) Most Cited Cases

"Live Operator Attended Terminals," called for in patent claims for interactive voice response system, did not require that prompts displayed at operating stations be identical to vocal prompts used in automated formats.

[51] Patents  **101(2)**
291k101(2) Most Cited Cases

"Selecting a processing format" step, referred to in

patent claims for interactive voice response system, was controlled solely by called number.

[52] Patents  **101(2)**
291k101(2) Most Cited Cases

"Demographic conditions," referred to in patent claim for interactive voice response system, meant conditions used to limit call based on caller's geographic area.

[53] Patents  **101(2)**
291k101(2) Most Cited Cases

"Means for directly forwarding," called for in patent claim for interactive voice response system, was limited to disclosed structures which specifically performed function of directly forwarding call from remote terminal to live operator-attended terminal when remote terminal from which caller was calling was not technically capable of digitally providing data. 35 U.S.C.A. § 112.

[54] Patents  **101(2)**
291k101(2) Most Cited Cases

"First response unit means," called for in patent claims for interactive voice response system, referred to audio response units.

[55] Patents  **101(2)**
291k101(2) Most Cited Cases

"Qualification means," called for in patent claim for interactive voice response system, was limited to disclosed structures which specifically performed function preliminarily qualifying callers from remote terminals for connection to interface processors, and software required to perform said qualifying. 35 U.S.C.A. § 112.

[56] Patents  **101(2)**
291k101(2) Most Cited Cases

"Second response unit means for receiving calls in a second call mode," called for in patent claim for interactive voice response system, meant call mode, such as 900 call mode or area code mode, other than 800 call mode.

[57] Patents  **165(4)**
291k165(4) Most Cited Cases

Whether preamble imposes additional limitation on patent claim depends on whether it is structural or

mere statement of purpose or use of invention.

[58] Patents  101(2)
291k101(2) Most Cited Cases

"Means for processing calls in an interface format," called for in patent claim for interactive voice response system, was limited to disclosed structures which specifically performed that function. 35 U.S.C.A. § 112.

[59] Patents  101(2)
291k101(2) Most Cited Cases

"Memory means for storing caller cues and use indications," called for in patent claim for interactive voice response system, meant computer hardware that stored questions or prompts which were given to caller.

[60] Patents  101(2)
291k101(2) Most Cited Cases

"Means for selecting a current caller cue," called for in patent claim for interactive voice response system, was limited to disclosed structures and associated software which specifically performed function of selecting current caller cue from memory under control of identification signals and use indications. 35 U.S.C.A. § 112.

Patents  328(2)
291k328(2) Most Cited Cases

4,930,150, 5,128,984, 5,255,309, 5,351,285, 5,561,707, 5,684,863. Cited.
*588 Robert T. Haslam, Sarah E. Mitchell, Heller Ehrman, White & McAuliffe, LLP, Palo Alto, CA, Carl S. Nadler, Jenner & Block, Washington, DC, Bradford P. Lyerla, Ryndak & Lyerla, Chicago IL, for Plaintiffs.

Matthew J. Siembieda, Timothy D. Katsiff, Blank Rome Comisky & McCauley, Philadelphia, PA, Thomas D. Rein, Douglas I. Lewis, Russell E. Cass, Lisa A. Schneider, Andrew J. Wu, Sidley & Austin, Chicago, IL, Mark D. Wegener, Matthew J. Moore, Howrey & Simon, Washington, DC, Fred T. Magaziner, Martin J. Black, Abbe F. Fletman, Wolf, Block, Schorr and Solischoen, LLP, Philadelphia, PA, for Defendants.

CONCLUSIONS OF LAW REGARDING PATENT CLAIM CONSTRUCTION

LOWELL A. REED, Jr., Senior District Judge.

Ronald A. Katz ("Katz") is the inventor in a large body of patents dealing with telephonic interactive voice applications. The plaintiffs, Ronald A. Katz Technology Licensing, L.P. and MCI Telecommunications Corporation, filed this patent infringement suit against AT & T Corporation, AT & T Universal Card Services Corporation, and AT & T American Transtech, Inc., alleging that the defendants are infringing a number of Katz's patents. In total, over 400 patent claims are at issue in this lawsuit. Because of the complexity and size of the case, the Court ordered that the parties designate a set of approximately seventeen claims to be construed at a Markman hearing. The plaintiffs designated twenty claims, including Claims 33, 44, 93, 104, 117, and 192 of the 5,561,707 patent (the '707 patent), Claims *589 49, 50, 65, 79, 171, and 190 of the 5,684,863 patent (the '863 patent), Claim 51 of the 5,255,309 patent (the '309 patent), Claim 15 of the 4,930,150 patent (the '150 patent), Claims 17, 20, 24, and 77 of the 5,351,285 patent (the '285 patent), and Claims 4 and 15 of the 5,128,984 patent (the '984 patent).

A Markman hearing was held from through June 4, 1999, in which the parties presented expert testimony and oral argument as to the proper construction of the disputed claim language in the twenty claims at issue. The parties also submitted a series of briefs and proposed claim constructions to the Court, all of which were considered by this Court in making the claim constructions that follow. On each claim term to be construed, the parties have submitted many arguments and have pointed to many portions of the intrinsic and extrinsic record in their briefs, in their proposed claim constructions, and in their oral presentations. While the Court has considered all of the arguments and citations of the parties, I may not reiterate all of them in full for each claim term.

I. THE LAW OF PATENT CLAIM CONSTRUCTION

In general, a patent must describe the scope of the patentee's invention so as to "secure to [the patentee] all to which he is entitled, [and] to apprise the public of what is still open to them." Markman v. Westview Instruments, Inc., 517 U.S. 370, 373, 116 S.Ct. 1384, 134 L.Ed.2d 577 (1996) (internal quotation omitted). This is accomplished through the specification of the patent, which should describe the invention in clear terms so that a person in the art of the patent may make and use the invention, and the claims of the patent, which should "particularly point[] out and

distinctly claim the subject matter which the applicant regards as his invention." 35 U.S.C. § 112.

[1][2] In Markman v. Westview Instruments, Inc., the Supreme Court, affirming the Court of Appeals for the Federal Circuit, held that construction of patent claims is exclusively within the province of the court to determine as a matter of law. 517 U.S. at 372, 116 S.Ct. 1384. To complete the task of claim construction, a court may draw on the canons of construction that can be sifted from the decisions of the Court of Appeals for the Federal Circuit spanning before Markman and beyond. In construing the claims of a patent, a court should consider the claim language, the specification, and, if offered, the prosecution history, which are collectively considered intrinsic evidence of the meaning of the claim terms. See Markman v. Westview Instruments, Inc., 52 F.3d 967, 979 (Fed.Cir.1995). As the public record before the Patent and Trademark Office ("PTO") upon which the public is entitled to rely, the intrinsic evidence is the most important source for determining the meaning of claim terms. See Vitronics Corporation v. Conceptronic, Inc., 90 F.3d 1576, 1582, 1583 (Fed.Cir.1996). Under some circumstances, a court may also consult evidence extrinsic to the patent, such as technical dictionaries or expert testimony as to how those skilled in the relevant art under consideration would interpret the claims. Id.

A. CLAIM LANGUAGE

[3] Because the scope of the rights conveyed to the patentee is defined by the claims, claim construction "begins and ends in all cases with the actual words of the claim." Renishaw PLC v. Marposs Societa' per Azioni, 158 F.3d 1243, 1248 (Fed.Cir.1998). In construing the terms of a claim, "the focus is on the objective test of what one of ordinary skill in the art at the time of the invention would have understood the term to mean." Markman, 52 F.3d at 987. "Absent a special and particular definition created by the patent applicant, terms in a claim are to be given their ordinary and accustomed meaning." Renishaw, 158 F.3d at 1249.

*590 [4] Unless otherwise compelled, a court should give full effect to the ordinary meaning of claim terms, even if the terms are broad. See Johnson Worldwide Associates, Inc. v. Zebco Corporation, 175 F.3d 985, 989 (Fed.Cir.1999). "General descriptive terms will ordinarily be given their full meaning; modifiers will not be added to broad terms standing alone." Id.

[5] The specification, the prosecution history, and in some situations the extrinsic evidence may confirm the ordinary meaning of the claim terms or may provide a special meaning for the claim terms. See Renishaw, 158 F.3d at 1248. Thus, once a court has determined the ordinary meaning of the claim terms, it must also consider the specification and prosecution history to determine if the patentee used any terms in a manner inconsistent with their ordinary meaning. See Vitronics, 90 F.3d at 1582.

B. SPECIFICATION

[6][7][8][9] While terms are generally given their ordinary meaning, "[c]laims must be read in view of the specification, of which they are a part." Markman, 52 F.3d at 979; see also Phonometrics, Inc. v. Northern Telecom Inc., 133 F.3d 1459, 1466 (Fed.Cir.1998) ("Although claims are not necessarily restricted in scope to what is shown in a preferred embodiment, neither are the specifics of the preferred embodiment irrelevant to the correct meaning of claim limitations."). The relationship between the claims and the specification is illustrated by the following pair of claim construction canons: "(a) one may not read a limitation into a claim from the written description, but (b) one may look to the written description to define a term already in a claim limitation, for a claim must be read in view of the specification of which it is a part." Renishaw PLC v. Marposs Societa' per Azioni, 158 F.3d 1243, 1248 (Fed.Cir.1998). While additional limitations may not be imported into a claim from the specification, a court may construe a limitation specifically recited in a claim in light of the specification. See Phonometrics, Inc. v. Northern Telecom Inc., 133 F.3d 1459, 1466 (Fed.Cir.1998). Thus, in order to inject a definition into a claim from the written description, the claim must explicitly contain a term in need of definition. See Renishaw, 158 F.3d at 1248, 1252 (noting that passages referring to the preferred embodiment cannot be read into the claim without some "hook"). Further, claim terms should not be narrowed by the content of the specification "unless the language of the claims invites reference to those sources." Johnson Worldwide, 175 F.3d 985, 990 (noting that there "must be a textual reference in the actual language of the claim with which to associate a proffered claim construction").

[10] The Johnson Worldwide court noted two specific situations in which a claim term may be given a definition other than its ordinary meaning: (1) if a patentee chooses to be his or her own lexicographer by explicitly setting forth the definition for a claim term, or (2) if "the terms chosen by the

patentee so deprive the claim of clarity that there is no means by which the scope of the claim may be ascertained from the language used." 175 F.3d at 990. In these situations, reference should be made to the specifications to determine the meaning of the claims.

Because a patentee is free to be his own lexicographer, the specifications may serve as dictionary for certain terms in the claims. Markman, 52 F.3d at 979-80. However, in order for a patentee to assign a special definition to a claim term, he or she must do so clearly in the specification. Markman, 52 F.3d at 980; *see also Renishaw*, 158 F.3d at 1249 (noting that a "patentee's lexicography must, of course, appear 'with reasonable clarity, deliberateness, and precision' before it can affect the claim") (quoting In re Paulsen, 30 F.3d 1475, 1480 (Fed.Cir.1994)). "Without an express intent to impart a novel meaning to claim terms, an inventor's claim terms *591 take on their ordinary meaning." York Products, Inc. v. Central Tractor Farm & Family Center, 99 F.3d 1568, 1572 (Fed.Cir.1996); *see also Vitronics*, 90 F.3d at 1582 ("Although words in a claim are generally given their ordinary and customary meaning, a patentee may choose to be his own lexicographer and use terms in a manner other than their ordinary meaning, as long as the special definition of the term is clearly stated in the patent specification or file history."). Thus, if a term is used in a variety of ways by the patentee in the specification, this may be indicative of the breadth of the term, rather than a limited definition. *See Johnson Worldwide*, 175 F.3d 985, 990-91 (distinguishing Lairam Corp. v. Morehouse Industries, Inc., 143 F.3d 1456, 1463 (Fed.Cir.1998) on the ground that in that case a narrow interpretation was compelled because of unambiguous language in the specification made clear that the claim language had only one interpretation).

As for the second situation discussed in Johnson Worldwide, while a court generally construes claim terms consistent with their common meaning, a "common meaning, such as one expressed in a relevant dictionary, that flies in the face of the patent disclosure is undeserving of fealty." Renishaw, 158 F.3d at 1250. Also, a court may also resort to the specifications if a claim term lends itself to several common meanings; in such a situation "the patent disclosure serves to point away from the improper meanings and toward the proper meaning." Renishaw, 158 F.3d at 1250.

C. PROSECUTION HISTORY

[11][12] The third source of intrinsic evidence that a court may consider in understanding the meaning of the claims is the prosecution history. However, "[a]lthough the prosecution history can and should be used to understand the language used in the claims, it too cannot 'enlarge, diminish, or vary' the limitations in the claims." Markman, 52 F.3d at 980 (quoting Goodyear Dental Vulcanite Co. v. Davis, 102 U.S. 222, 227, 12 Otto 222, 26 L.Ed. 149 (1880)). A court also may consider the prior art cited in the prosecution history, which may contain clues as to what the claims do not cover. *See Vitronics*, 90 F.3d at 1583.

[13][14] If a patentee takes a position before the PTO, such that a "competitor would reasonably believe that the applicant had surrendered the relevant subject matter," the patentee may be barred from asserting an inconsistent position on claim construction. Cybor Corp. v. FAS Technologies, Inc., 138 F.3d 1448, 1457 (Fed.Cir.1998); *see also Cole v. Kimberly-Clark Corporation*, 102 F.3d 524, 531 (Fed.Cir.1996) (holding that the patentee was estopped from arguing that her "perforation means" encompassed "ultrasonic bonded seams" after she distinguished references that contained such seams). If a patentee distinguishes a reference on multiple grounds to the PTO, any one of these may indicate the correct construction of a term. *See Gentry Gallery, Inc. v. Berkline Corporation*, 134 F.3d 1473, 1477 n. * (Fed.Cir.1998). However, "[u]nless altering claim language to escape an examiner rejection, a patent applicant only limits claims during prosecution by clearly disavowing claim coverage," that is, by making a statement that concedes or disclaims coverage of the claims at issue based on a piece of prior art. York Products, 99 F.3d at 1575.

D. EXTRINSIC EVIDENCE

[15][16][17] A court may, in its discretion, consider extrinsic evidence in order to correctly understand and define the language of the claims. *See Markman*, 52 F.3d at 980. However, "[e]xtrinsic evidence is to be used for the court's understanding of the patent, not for the purpose of varying or contradicting the terms of the claims." Markman, 52 F.3d at 981; *see also Vitronics*, 90 F.3d at 1584. Extrinsic evidence may be consulted if the court is not familiar with the terminology of art in which the patent is written, but it should not be *592 consulted to clarify ambiguity in claim terms. *See Markman*, 52 F.3d at 986. "Indeed where the patent documents are unambiguous, expert testimony regarding the meaning of a claim is entitled to no weight." Vitronics, 90 F.3d at 1584.

E. MEANS PLUS FUNCTION LIMITATIONS

Paragraph 6 of section 112 of 35 U.S.C. provides that:

An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

This provision of the patent statute permits a patentee to write a limitation in a combination claim as a means for performing a function without reciting structure, material, or acts in the limitation. See Valmont Industries, Inc. v. Reinke Mfg. Co., Inc., 983 F.2d 1039, 1042 (Fed.Cir.1993). A patentee who invokes this drafting tool is required, however, to describe in the patent specification some structure which performs the specified function. See Valmont, 983 F.2d at 1042.

[18] If a patentee uses the word "means" in a claim, a presumption arises that he or she used the word to invoke § 112, ¶ 6. See Rodime PLC v. Seagate Technology, Inc., 174 F.3d 1294, 1302 (Fed.Cir.1999). There are two ways this presumption may be rebutted: (1) if a claim term uses the word "means" but recites no function which corresponds, or (2) if the claim recites a function but also recites sufficient structure or material for performing the claimed function. See Rodime, 174 F.3d 1294, 1302. It is also possible that a claim limitation that does not recite the word "means" may be construed under § 112, ¶ 6, despite a presumption to the contrary. See Cole v. Kimberly-Clark Corporation, 102 F.3d 524, 531 (Fed.Cir.1996) (citing Raytheon Co. v. Roper Corporation, 724 F.2d 951, 957 (Fed.Cir.1983)).

[19] Even if a mechanism is defined in functional terms, such as a "filter," "brake", "clamp," or "detent mechanism," or if it does not call to mind a single well-defined structure, it may not be subject to means-plus- function analysis. See Greenberg v. Ethicon Endo-Surgery, Inc., 91 F.3d 1580, 1583 (Fed.Cir.1996) (noting that "[d]ictionary definitions make clear that the noun 'detent' denotes a type of device with a generally understood meaning in the mechanical arts, even though the definitions are expressed in functional terms" and that "[i]t is true that the term 'detent' does not call to mind a single well-defined structure, but the same could be said of other commonplace structural terms such as "clamp"

or "container" "). In addition, a structural term need not connote a precise physical structure to those of ordinary skill in the art to avoid a means-plus-function analysis, as long as it conveys a variety of structures that are referred to by that term. See Personalized Media Communications, LLC v. International Trade Commission, 161 F.3d 696, 704-705 (Fed.Cir.1998) (noting that "detector" was not a generic structural term such as "means," "element," or "device" nor a coined term such as "widget" or "ram-a-fram" in deciding that use of the term "digital detector" did not subject the limitation to § 112, ¶ 6 analysis). The critical inquiry is "not simply that a [mechanism] is defined in terms of what it does, but that the term, as the name for structure, has a reasonably well understood meaning in the art." Greenberg v. Ethicon Endo-Surgery, Inc., 91 F.3d 1580, 1583 (Fed.Cir.1996).

Once the court has determined that a claim limitation is written in means plus function form, the court must define what the "means" are in the claim. The first step is to determine the function that the *593 claimed means performs. See Rodime, 174 F.3d 1294, 1302. The claim language must link the term "means" to a function or the limitation is not subject to 112, ¶ 6. See York Products, Inc. v. Central Tractor Farm & Family Center, 99 F.3d 1568, 1574 (Fed.Cir.1996). Next, the court must determine what structure, material, or acts disclosed in the specification correspond to the word "means." See Chiumenti Concrete Concepts, Inc. v. Cardinal Industries, Inc., 145 F.3d 1303, 1308 (Fed.Cir.1998).

[20][21] In determining the structure disclosed in the specification that corresponds to the means, the court should be wary of importing excess limitations from the specification. For example, if a structure is defined in the specification in a way unrelated to the recited function in the means-plus- function clause, those additional aspects of the structure should not be read as limiting the scope of the means clause. See Chiumenti, 145 F.3d at 1308-1309 (construing a patent for an apparatus and method for cutting concrete, the court held that because the function that corresponded to the means in the limitation was supporting the surface of the concrete, structural aspects of the skid plate in the preferred embodiment that did not perform this particular function were not to be read as limiting the scope of the means clause). In addition, in construing means plus function claims, generally a court should not import a function of a working device or a preferred embodiment into the claims as part of the "means" if such a function is not part of the function recited in the claims. See Rodime, 174 F.3d 1294, 1305; see also Constant v.

Advanced Micro-Devices, Inc., 848 F.2d 1560, 1571 (Fed.Cir.1988) ("Although the specification may aid the court in interpreting the meaning of disputed language in the claims, particular embodiments and examples appearing in the specification will not generally be read into the claims.").

II. CONSTRUCTION OF THE TWENTY CLAIMS PRESENTED AT THE *MARKMAN* HEARING

The twenty patent claims presented to the Court for construction at the *Markman* hearing may be categorized into the following groups: (1) Analysis Control System Claims, including Claim 51 of the '309 patent, Claims 33, 104, 117 and 192 of the '707 patent, and Claims 49, 50, 65, and 171 of the '863 patent, (2) Claims Involving Products Carrying Participation Numbers, including Claims 44 and 93 of the '707 patent and Claims 79 and 190 of the '863 patent, (3) Conditional Format Claims, including Claim 15 of the '150 patent and Claims 17, 20, 24, 77 of the '285 patent, and (4) Claims from the '984 patent, including Claims 4 and 15.

A. ANALYSIS CONTROL SYSTEM CLAIMS

The first set of claims, the Analysis Control System Claims, come from the '707, '863, and '309 patents. The text and figures of the specifications to these three patents are identical, so references to the specification in one patent are equally applicable to analysis of a term appearing in a claim in another of the three patents. The text of the analysis control system claims at issue is provided in the Appendix to this Memorandum.

In general, the '707, '863, and '309 patents describe a system which interfaces callers at remote terminals through a telephone network to provide voice prompts to the callers so that they can provide information to the system. The information from the callers may be stored in the system for processing. The content of the prompts provided by the system to the callers and the type of processing performed on the information provided by the callers is determined by a format, designed to implement, for example, an auction sale or a contest.

1. "Communication Facility"

[22] The parties have asked the Court to construe the term "communication facility." *594 [FN1] The plaintiffs argue that although the term does not have a common meaning to one of ordinary skill in the art, [FN2] the meaning is clear from the claim language.

The plaintiffs contend that because the purpose of the communication facility in the claims is to connect callers to the interactive voice application ("the Katz system"), the kind of communication facility is inconsequential and the Court should construe the term to mean "any telephone network that enables callers to make calls." (Pls.' Brief at 44-45).

FN1. The parties agree that the term "telephonic [or 'telephone'] communication system" is synonymous with "communication facility" and thus should be construed the same. The Court finds no reason in the claim language, specifications, or prosecution history of the patents which contain these terms to construe the two terms differently.

In addition to Claim 51 of the '309, the term "communication facility" or "telephonic [or 'telephone'] communication system" appears in the following claims: Claims 33, 44, 93, 104, 117 and 192 of the '707 patent, Claims 49, 50, 65, 79, 171, and 190 of the '863 patent, Claim 10 of the '309 patent, Claims 17, 20, 24, and 77 of the '285 patent, and Claim 15 of the '984 patent. There being no indication to the contrary, the Court concludes that these terms have one meaning across all the patent claims at issue in the *Markman* hearing.

FN2. Both Mr. Morganstein, the expert for the plaintiffs, and Professor Larky, one of the experts for the defendants, testified that a person of ordinary skill in the art of interactive voice response systems would have had at least a Bachelor's degree in a scientific or engineering field, such as physics, electrical engineering, or computer science, and at least two years experience working in the field of computer telephony. (Transcript volume 1 at 77-78; volume 3 at 39).

The defendants attack this proposed construction of communication facility and argue that the Court should construe the term as requiring that (1) the communication facility comprise the entire Public Switched Telephone Network ("PSTN") [FN3] and (2) the Katz system must be operated only outside the PSTN or communication facility. To support their argument that the communication facility comprises the entire PSTN, the defendants point to particular

language in the specifications that they contend supports such a construction. First, the defendants point to Column 3 of the '707 patent at line 13, which provides that "[i]n the disclosed embodiment, the remote terminals T1 through Tn represent the multitude of conventional telephone terminals that are coupled to a communication facility C which may take the form of a comprehensive public telephone system for interconnecting any associated terminals T1-Tn." Because the specification indicates that the communication facility has the ability to connect *any* associated terminals (such as telephones), the defendants argue that the communication facility must include the entire PSTN. Similarly, the defendants argue that Katz defined communication facility as the entire PSTN in line 63 of Column 4 of the '707 patent, which provides that "DNIS capability is a function of the communication facility C (composite telephone system)." The defendants maintain that these passages of the specification indicate that the communication facility should be construed to mean the entire PSTN.

FN3. Professor Larky defined the PSTN as the comprehensive public telephone system which "includes the operations of the various local exchange carriers (such as Bell Atlantic), and interexchange (long distance) carriers, such as AT & T and MCI." (Expert Report of Larky at 14). Although, the Court did not need to draw on expert testimony to construe the meaning of the term "communication facility," reference to the expert's report to understand the meaning of the term PSTN is essential to understanding the defendants' argument.

The plaintiffs argue that the passages relied on by the defendants do not support their construction and that the specification indicates a contrary definition of "communication facility." In Column 17 of the '707 patent, Katz states that callers to his system could be billed through the "pay-to-dial network." The plaintiffs argue that this indicates that "communication facility" may comprise any part of the *595 PSTN, including the pay-to-dial network, that allows calls to be made by a caller to the Katz system and does not require that it comprise the entire PSTN. In addition, the plaintiffs contend that the prosecution history supports this construction. In a Preliminary Amendment dated January 10, 1986 in the prosecution of the '299 patent, Katz amended his claims to replace the term "public communication facility" with the term "communication facility."

(Ex. 26). Katz also added a claim during the prosecution of the '299 patent, claim 15, which provided: "A system according to claim 1 wherein said communication system comprises a public communication system." (Ex. 26). By altering his claims, the plaintiffs argue, Katz clearly did not limit his claims to *always* require use of the entire PSTN.

This Court concludes that the claim language does not shed much light on the scope of the communication facility; however, there is no indication from claim language itself that the communication facility must include the entire PSTN. The specification is more helpful in determining the scope of the term at issue. In Column 3, lines 55-59 of the '707 patent, Katz states that "[i]n the illustrative embodiment of the system, the communication facility C comprises a public telephone network." This indicates that the communication facility may, but is not required to involve the entire PSTN. In addition, the prosecution history of '299 patent cited by the plaintiffs, in which Katz removed the word "public" from modifying "communication facility," is consistent with this indication. The references to the specification made by the defendants do not undermine this reading of the claim language and specification and do not lend support to the defendants' proposed construction of this term. Thus, I conclude that in light of the claim language, specifications, and prosecution history presented by the plaintiffs, the term "communication facility" does not require the involvement of the entire PSTN or thus, all of its elements and processes.

To support their argument that "communication facility" is defined in the patents such that the Katz system must be operated *only outside* the PSTN or communication facility, the defendants point to the language of the preamble and claim limitations. The parties agree that because the terms "communication facility" and "analysis control system," which initially appear in the preamble, are referred to in the claim limitations, these terms should be considered as limitations in the claims. See Gerber Garment Technology, Inc. v. Lectra Systems, Inc., 916 F.2d 683, 689 (Fed.Cir.1990). The preamble provides for "[a]n analysis control system for use with a communication facility;" the defendants contend that this language, particularly the word "with," indicates that the Katz system, the analysis control system, is necessarily outside of the network. Further, the defendants argue that because the preamble indicates that the communication facility provides call data signals to the Katz system, this indicates that Katz was not referring to the internal routing signals that

occur inside the telephone network.

Turning to the language of the claim limitations, the defendants point out that Katz used the phrase "coupled to said communication facility," which they argue indicates that the Katz system is something distinct from the communication facility because it is "coupled to" it. The defendants also contend that the limitation "interface structure coupled to said communication facility ... including means to provide signals representative of data developed by said remote terminals and for receiving said calling number identification data and said called number identification data (DNIS) to identify one from a plurality of called numbers" indicates that the interface structure cannot be a switch inside the PSTN, because switches *send* *596 DNIS, not receive it. [FN4] This, the defendants argue, is further proof that the Katz system cannot include any elements or processes which are inside the PSTN.

[FN4] This limitation is not present in Claim 51 of the '309 patent, but it and similar limitations appear in other claims in which the term "communication facility" is used. *See, e.g.*, Claim 171 of the '863 patent (dependent on Claim 93 of the '863).

In addition, the defendants refer the Court to Figure 1 in the specification. First, the defendants argue that the Katz system is represented as a "dead-end" or the place at which a call terminates, not as a mechanism by which calls are connected from one person to another, as is the function of the PSTN. Second, the defendants argue that pursuant to the Code of Federal Regulations, if an aspect of the invention is represented in the figure as a rectangular box, it indicates that that aspect is not essential to the understanding of the invention, citing 37 C.F.R. § 1.83(a). Thus, the defendants argue, the fact that the communication facility is represented in the figure as an empty box lends support to their position that the Katz system must be operated only outside the network.

Finally, the defendants point to the specification of the '707 patent at Column 6 at line 14, which provides that "individual callers would use the remote terminals T1-Tn to contact the central station D through the communication facility," as indicating that by using the word "through," Katz indicated that the Katz system must be operated only outside the PSTN.

The plaintiffs argue that the claim language is silent as to whether the Katz system must function only "inside" or "outside" the network. Further, the plaintiffs argue that there is nothing in the specification that requires that the Katz system function only outside the network. The plaintiffs maintain that although the communication facility is represented in Figure 1 as an empty box, certain parts that the defendants would consider to be "inside" the PSTN, such as the remote terminals and customer billing, are split out and shown as separate boxes in Figure 1. Thus, the plaintiffs contend that if customer billing and the remote terminals can be shown as separate empty boxes and still be "inside" the PSTN, there is no basis in Figure 1 for construing the Katz system, which is also represented by separate boxes, as "outside" the PSTN.

The Court concludes that there is no basis in the claim language, the specifications, or in Figure 1 to construe the term "communication facility" to mean that the Katz system must be operated only outside the communication facility. It appears that the essence of the defendants' argument here is that the Katz system cannot run on any of the equipment that is part of the communication facility, and thus, is "outside" of the communication facility. The Court is not persuaded that the words "for use with," "through" or "coupled to" indicates that the Katz system must be operated only outside the communication facility. The words "with," "through," and "coupled to" connote some type of relationship between two things; however, none of these terms means that the two things in the relationship cannot be considered part of the same system or entity.

Finally, the defendants argue that, claim language and specification aside, Katz clearly limited his invention to a system only existing outside the communication facility in his representations to the PTO during the prosecution of his patents. The defendants point to comments by Katz during the prosecution of the '707 patent regarding patents to DeBruyn, Riskin, Comella, and Daudelin. Specifically, the defendants point out that in an Amendment dated August 31, 1995, Katz stated that he amended his claim to recite "that processing of at least certain of the data developed by the terminals and the calling number identification data occurs in the Applicant's system" and that "[n]either DeBruyn nor Riskin teach this aspect of the Applicant's system, also neither patent *597 teaches calling number identification data provided automatically by a communication system (for example, ANI or like signals)." (Ex. 51).

In addition, the defendants point out that in the same Amendment, Katz noted in part that Comella's system "replaces the function of an operator for certain types of calls, for example, collect calls, person-to-person calls, charge-to- third number calls and so on" and that the patent to Comella "is somewhat of background interest for its interface aspects." (Ex. 51). As for the patent to Daudelin, the defendants point out that Katz described it as "generally directed to an interface arrangement for reducing the load on telephone operators." (Ex. 51). Apparently, the defendants contend that if Katz had contemplated that his system could have operated inside the PSTN, he should have said a lot more than he did to adequately distinguish his invention from the Daudelin and Comella patents, which were inventions that were operated by the PSTN.

Whether Katz complied with his obligations before the PTO, however, is a question for another day; the question before the Court is whether Katz made any statements to the PTO that limited the scope of his claims. Considering the passages of prosecution history flagged by the defendants, the answer to that question is no: The Court concludes that the statements by Katz regarding these patents do not constitute a representation from him to the PTO that his invention could be operated only "outside" the communication facility.

Further, the defendants point to statements made by Katz to the PTO in the September 19, 1994 Supplemental Information Disclosure Statement ("IDS") during the prosecution of the '575 patent, which occurred while the application of the '707 patent was still being prosecuted. Specifically, the defendants point to a passage in which Katz referred to a patent by DeBruyn and stated in part that the patent to DeBruyn "discloses a lottery system that is integral with the 'Telephone Company,' " and that in Katz' system, "the 'Telephone Company' ('a communication facility') simply provides an interface, the lottery system being a separate and distinct capability." (Ex. 41). However, taking the statements highlighted by the defendants in context, Katz points out differences between his system and the DeBruyn system including that in Katz system the caller must enter "lottery and identification data," while in the DeBruyn system, the caller need not enter such information because the system is run inside the "Telephone Company" where the callers' telephone number is already known. These statements highlight that the Katz system requires that a caller enter certain data, which is not required by the DeBruyn system; the statements do not limit

the physical or geographic location where the Katz system can or cannot operate.

Similarly, the defendants refer to another piece of prosecution history in which Katz discussed a patent to DeBruyn for a telephonic lottery system. (Ex. 46). In the September 30, 1994 IDS in the prosecution of the '120 patent, [FN5] Katz stated that DeBruyn was distinct from his system which received identification from a caller because the it was "integrated with the composite telephone system which could identify the subscriber's telephone number." The Court concludes that the statements of Katz in the September 19, 1994 Supplemental IDS and the September 30, 1994 IDS do not restrict or limit the term "communication facility" to mean that the Katz system must be operated only outside of it.

FN5. The '120 patent is related to the patents-in-suit; the defendants cite to this prosecution history because the claims at issue contain language regarding the communication facility which is similar to the patents before the Court. (Defs.' Brief at 34 n. 20).

The defendants argue that Katz also distinguishes his system from the routing and connection of telephone calls, which *598 are integral functions of a telephone company, thereby establishing that his system was to operate only outside the network. The defendants point to a statement made by Katz regarding a patent to Riskin in the prosecution of the '075 patent. (Ex. 40). In the Preliminary Amendment dated July 17, 1990, Katz stated that "[r]ecognizing that the Riskin patent discloses the utilization of ANI and DNIS signals to accomplish telephone routing, it is respectfully submitted that applicant's system involves entirely different philosophical considerations and structure." The defendants contend that because the Riskin patent was a system that was inside the telephone network, this statement by Katz indicates that his system was to be operated outside the PSTN. Similarly, the defendants argue that Katz distinguished his invention during the prosecution of the '929 patent [FN6] from a patent to Riskin by stating that his invention was outside the PSTN. (Ex. 37). In the Amendment dated August 1, 1990, Katz noted that in the Riskin patent, "functions are involved that are completely distinct from applicant's system.... Specifically, Riskin does not disclose an interface telephone system but rather discloses a connection system." The Court concludes that in these statements, however, Katz is

discussing functional differences between the Riskin system and his system, not differences in the physical or geographic location of the elements of the systems.

FN6. The '929 patent is a direct descendant of the '299 Application, from which all the patents-in-suit descend.

Essentially, the defendants are attempting in their arguments regarding "communication facility" to put a non-infringement rabbit in their hat at the claim construction stage of the case; in their arguments, they expressly seek to include any and all of their equipment, wires, switches, computers, trunks, lines, databases, and so on in the definition of "communication facility" and then establish that the Katz system cannot by definition include any of those things or run on any of that equipment because his system must be "outside" the communication facility. The result of adopting such reasoning would be to restrict the definition of "communication facility" on the basis of who owned the computer or switch on which the Katz system was running or on the basis of the physical or geographic location of the particular computer or switch. The plain words of the patents will not support such a restricted definition.

Based on the foregoing inspection of the claim language, specification, and prosecution history, the Court construes the term "communication facility" in the Katz patents to mean: that part of a telephone network that enables a caller to connect to the Katz system. The Court concludes that there is no support for a construction of "communication facility" to require that the Katz system be operated only outside the entire PSTN nor that the "communication facility" encompass the elements or processes of the entire PSTN.

2. Application of Means-Plus-Function Analysis

The analysis control system claims contain several limitations that contain a "structure" or "means" term, such as "interface structure," "voice generator structure," and "means to provide call data signals representative of data developed by said remote terminals." While the parties agree that some of these terms are subject to means-plus-function analysis under 35 U.S.C. § 112, ¶ 6, the plaintiffs dispute the application of such analysis to other terms.

a. "Interface Structure"

[23] The first of these terms the parties wish the Court to construe is "interface structure." [FN7] The claim limitations in *599 which this term appears read "an interface structure coupled to said communication facility to interface said remote terminals for voice and digital communication." In some of the claims, the limitation goes on to provide that the interface structure includes "means to provide caller data signals representative of data relating to said individual callers developed by said remote terminals." [FN8] Other claims contain limitations which further provide that the interface structure includes means "for receiving said calling number identification data." [FN9]

FN7. The term "interface structure" appears in the following claims under consideration at the Markman hearing: Claim 51 of the '309 patent, Claims 33, 104, 117 and 192 of the '707 patent, and Claims 49, 50, 65, and 171 of the '863 patent.

FN8. Claims which include this or similar language are Claims 51 of the '309 patent, Claims 104 and 117 of the '707 patent, and Claims 49, 65, and 171 of the '863 patent.

FN9. Claims which include this or similar language are Claims 104, 117, and 192 of the '707 patent and Claims 49, 65, and 171 of the '863 patent.

The dispute between the plaintiffs and the defendants centers around whether "interface structure" is subject to means-plus-function analysis under 35 U.S.C. § 112, ¶ 6. The plaintiffs maintain that the term does not implicate § 112, ¶ 6 and should be construed to mean "a hardware device with associated software that establishes an interactive connection between a caller's telephone and a computer system." (Pls.' Brief at 50). The plaintiffs argue that under Personalized Media Communications, LLC v. International Trade Commission, 161 F.3d 696, 704-705 (Fed.Cir.1998), a term that is defined in terms of its function or that does not bring to mind one well-defined structure is not necessarily subject to means-plus-function analysis. In Personalized Media, the Court of Appeals for the Federal Circuit held that the term "digital detector" was not subject to means-plus-function analysis because it conveyed to one of ordinary skill in the art "a variety of structures known

as detectors." *Id. at 705.* The plaintiffs argue that the term "interface structure" is akin to "digital detector" in that it is a sufficient recitation of structure so as to avoid the application of means-plus-function analysis. The plaintiffs argue that a specific set of structures corresponding to "interface structure" was known to those of ordinary skill in the art at the time of the prosecution of the Katz patents.

The defendants argue that the term "interface structure" is written in functional language, fails to sufficiently connote structure to those of ordinary skill in the art, and as such, is subject to analysis under § 112, ¶ 6. The defendants contend that Katz simply used the term "structure" instead of "means" to attempt to avoid the application of § 112 ¶ 6. The defendants maintain that "interface structure" is a generic term which does not inform a person of ordinary skill in the art what structure is being conveyed by the term.

[24] Because the term "interface structure" is not drafted in "means for" form, the Court presumes that it is not subject to the requirements of § 112 ¶ 6. See *Mas-Hamilton Group v. LaGard, Inc.*, 156 F.3d 1206, 1213 (Fed.Cir.1998). The critical factor in determining whether a term in a limitation which does not invoke "means for" language is subject to means-plus-function analysis despite the presumption to the contrary is whether the term brings to mind a set of structures to those of ordinary skill in the art, and not whether the term is written in functional language. See *Personalized Media*, 161 F.3d at 704-705. To determine whether this term would connote sufficient structure to those of ordinary skill in the art, this Court must refer to references in the computer telephone field contemporary with the prosecution of the Katz patents. See *Greenberg*, 91 F.3d at 1583 (consulting dictionaries to determine that the term "detent" denoted a device generally understood to those in the mechanical arts).

*600 In an article in the AT & T Technical Journal regarding the Conversant 1 Voice System, [FN10] "trunk interface units" are described as connecting incoming trunks from a central office in the telephone network, and "line interface units" are described as initiating or receiving calls over ordinary telephone lines. (Ex. 366). In an 1985 article entitled "The AT & T Multi-Mode Voice Systems/Full Spectrum Solutions for Speech Processing Applications," the authors refer to "telephone interface units (either line or trunk circuits)" as being a component of a basic system for speech processing applications using the telephone

network and centralized databases. (Ex. 358). Other references in the record indicate that "interface structure" connoted structure to those of ordinary skill in the art: Exhibit 355, an article regarding Periphonics Voicepac, describes a particular brand of device used as an interface; Exhibit 405, a 1986 article on the Conversant 1 Voice System, discusses the function of line and trunk interfaces; Exhibit 250, the 4,866,756 patent to Crane et al., incorporates a "telephone interface component" to transmit audio response signals; and Exhibit 235, the 4,797,911 patent to Szlam et al., incorporates "trunk interface units" into its customer account online servicing system.

[FN10] The date of this article is unclear in the record, but there is some indication in the article that the manuscript was revised in 1986.

One technical dictionary cited by the plaintiffs was helpful in assisting the Court determine what "interface structure" meant to those in the art. In the *Dictionary of Computing and New Information Technology* by A.J. Meadows, et al. (1982), the term "interface" is defined as being "[u]sed as a general term to describe the connecting link between the two systems. Most frequently refers to the hardware and software required to couple together two processing elements in a computer system." (Ex. 481).

While the testimony of the experts at the *Markman* hearing is not as weighty as prior art and technical references in determining the state of the art at the time of the prosecution of the Katz patents, it is consistent with the above references in indicating that "interface structure" had meaning and brought to mind a set of structures to those in the field. See Morganstein Testimony, Transcript Volume 1 at 173, line 24 to 176, line 2 (testifying that the term "interface structure" would have had meaning to a person of ordinary skill in the art who had read the Katz patents and would have brought to mind a range of structures such a person could have used to build the Katz inventions); Larky Testimony, Transcript Volume 3 at 64 lines 12-15 (testifying that he recognized that the term "interface structure" referred to "some physical structure" but not a specific structure).

Based on the above references and expert testimony, the Court concludes that although the term "interface structure" is written in functional language, the limitation sufficiently connotes structure such that §

112, ¶ 6 does not apply. That is, I conclude that, based on the cited prior art, references, and testimony of the experts at the Markman hearing, the term "interface structure" would have called to mind a specific set of structures to a person of ordinary skill in the art such that such a person would be able to build the Katz inventions.

Having concluded that the term "interface structure" is not subject to § 112, ¶ 6, the Court must construe the meaning of the term according to the regular rules for claim construction. The meaning of "interface structure" to those of ordinary skill in the art at the time has been discussed above. In addition, in Column 4, line 52 to Column 5 line 15 of the '707 patent, Katz discusses the function and components of the interface structure and states that "the interface 20 incorporates modems, tone decoders, switching mechanisms, DNIS and ANI capability (call data analyzer 20a) *601 along with voice interface capability" and that the "interface 20 provides the connection of the first lines to a switch 21 which are in turn coupled to first function units, or processors PR1 to PRn." This description of the interface in the specification is consistent with the ordinary meaning of the term "interface structure" to those of skill in the art. Based on the foregoing, I construe the term "interface structure" in the Katz patents to mean "the hardware and software required to connect the processors upon which the Katz system is running to the communication facility such that information from the communication facility and the remote terminals may be provided to and received by the Katz system." For the claims listed in footnote 8, *supra*, the Court construes the term "interface structure" to also include the means to perform the specific function of providing caller data signals representative of data developed at the remote terminals. For the claims listed in footnote 9, *supra*, the Court construes the term "interface structure" to also include the means to perform the specific function of receiving calling number identification data.

**b. "Means to Provide Caller Data Signals" and
"Means to Receive Calling Number
Identification Data"**

[25] Some of the limitations beginning with the term "interface structure" contain terms drafted in "means for" language, including "means to provide caller data signals" in Claims 51 of the '309 patent, Claims 104 and 117 of the '707 patent, and Claims 49, 65, and 171 of the '863 patent, and means "to receive calling number identification data" in Claims 104, 117, and 192 of the '707 patent and Claims 49, 65,

and 171 of the '863 patent. [FN11] Both sides agree that these terms are subject to means-plus- function analysis. The plaintiffs argue that the structure that corresponds to the "means" in "means to provide caller data signals" is the Interface 20 in Figure 1 or Interface 1A sub1 through 1A subN and 1B sub1 through 1B subN in Figure 9 of the '309, '707, and '863 patents. The plaintiffs argue that the structures in Figure 1 that correspond to the "means" in "means to receive calling number identification data" are the Interface (20) and the Call Data Analyzer (20a). The defendants argue that the "means" in both of these means- plus-function limitations corresponds to the structures referenced by the plaintiffs but also corresponds to the Automatic Call Distributor ("ACD").

FN11. Some of the claims contain slight variations on this language, but the Court concludes the meaning of the various phasing of this concept is the same.

The Court concludes that the phrases "means to provide caller data signals" and "means for receiving said caller number identification data" are written in "means for" form, do not recite sufficient structure in the claim language, and are subject to analysis under § 112, ¶ 6. According to the specification of the '707 patent at Column 4, lines 28-31, the ACD functions to "queue incoming calls for connection to a lesser number of lines." The ACD does not fulfill and is not necessary to the function of providing call data signals or receiving calling number identification data and thus does not correspond to the "means" in those limitations. The Court concludes that the structure disclosed in the patents that corresponds to the "means" in the "means to provide caller data signals" is the Interface 20. The Court concludes that the structures disclosed in the patents that correspond to the "means" in "means for receiving calling number identification data" are the Interface 20 and the Call Data Analyzer 20a.

c. "Voice Generator Structure"

[26] The term "voice generator" appears in several of the analysis control system claims at issue, and the limitations containing this term read "voice generator structure coupled through said interface structure for actuating said remote terminals as to provide vocal operating instructions *602 to said individual callers." [FN12] The parties agree that the term "voice generator structure" is not subject to means- plus-function analysis because the term connotes a

specific range of structures that correspond to the term to those of ordinary skill in the art. The Court concludes that the plain meaning of the term "voice generator" indicates a structure that can produce vocal sounds. The specification of the patents in which this term is found describes the voice generator structure as "a voice origination apparatus may prompt individual callers who (after qualification) provide select digital data to develop a record for further processing." Column 2 lines 4 to 8 of the '707 patent. The specification also provides that the voice generator is incorporated in the interface, Column 4, lines 55 to 58 of the '707 patent, and that "recorded voice messages prompt callers to provide data by actuating the alphanumeric buttons" on their telephones, Column 1, lines 45 to 47 of the '707 patent. Based on the term's ordinary meaning, the claim language, and the specification, the Court concludes that "voice generator" means: a device for generating vocal instructions or prompts to individual callers at the remote terminals.

FN12. The term "voice generator structure" is found in Claim 51 of '309, Claims 33, 104, 117, and 192 of the '707 patent, and Claims 65 and 171 of the '863 patent. In Claim 192 of the '707 patent, the limitation provides that the voice generator structure is also able "to prompt said individual callers to enter data."

d. "Record Structure"

[27] The term "record structure" begins limitations in many of the Analysis Control System Claims at issue; the limitation in Claim 51 of the '309 patent reads "record structure, including memory and control means, connected to receive said caller data signals from said interface structure for updating a file and storing digital caller data relating to said individual callers provided from said digital input means through said interface structure." [FN13]

FN13. The term "record structure" appears in the following claims: Claim 51 of the '309 patent, Claims 33, 104, 117, and 192 of the '707 patent, and Claims 49, 50, 65, and 171 of the '863 patent. The wording of the record structure limitations varies across these claims; however, all include "memory and control means" and the concept of receiving information about callers from the interface structure or the communication

facility and then storing, updating, accessing, or testing that information. Thus, the definition of the term "record structure" will be the same across the claims at issue in which it appears.

The plaintiffs argue that "record structure" is not subject to means-plus- function analysis because the term connotes structure to those of ordinary skill in the art. Morganstein testified at the Markman hearing that a person of ordinary skill in the art who had read the Katz patents would have understood "record structure" to refer to a set of structures; Morganstein testified that the record structure would correspond to one of the building blocks of interactive voice applications, including processors, memory, and software. (Transcript volume 1 at 181-182). Larky did not disagree with Morganstein and testified that "record structure" would have connoted structure to those in the field. (Transcript volume 3 at 67-68). The plaintiffs also argue that the phrases "including memory" [FN14] and "connected to receive said caller data signals from said interface structure" are additional structural descriptions of record structure in the claims which support their position that the term does not implicate § 112, ¶ 6. The plaintiffs' proposed construction of this term is "a hardware device with associated *603 software, including memory and control means, used to store information." (Pls.' Appendix at 132).

FN14. It appears that both sides agree that the term "memory" does not implicate § 112, ¶ 6. Morganstein testified at the Markman hearing that a person of ordinary skill in the art would have been aware of many kinds of "memory," such as RAM, tapes, cassettes, and disks. See Morganstein Testimony, Transcript volume 1 at 106. Thus, the Court construes the term "memory" according to its plain meaning as: computer hardware that stores information, such as disks, RAM, or tapes.

The defendants argue that "record structure" is subject to § 112, ¶ 6 because the term is defined by the function it performs--accessing a file and storing data--and because it lacks a sufficiently definite structure to those of ordinary skill in the art. The structures that correspond to this term, the defendants argue, are the Processing Unit 92, Memory 98 with storage cells C1 through Cn in Figure 4, and the required wiring to connect these structures together.

The defendants argue that "record structure" also corresponds to the required software for performing the disclosed functions. The defendants contend that the only software programs disclosed in the specifications are in the context of the specific "formats" described by Katz, such as game shows, lotteries, and auctions. [FN15]

FN15. The defendants argued as well on other claim terms that the structures corresponding to the means in mean-plus-function limitations included software that was particularly programmed to carry out one of the seven formats disclosed in the specifications or to perform "statistical analysis to isolate a subset." In support of this argument, the defendants submitted the recent case of *WMS Gaming Inc. v. International Game Technology*, 184 F.3d 1339 (Fed.Cir.1999) after the close of the *Markman* hearing. Upon full consideration of the *WMS Gaming* case and the letters submitted to the Court by the parties regarding this issue, the Court concludes that the new decision by the Federal Circuit does not require that the software corresponding to the means in these limitations be specifically programmed to perform one of the seven formats disclosed in the specifications or statistical analysis to isolate a subset of callers or data.

Based on contemporary technical dictionaries and the testimony of the experts, the Court concludes that the term "record structure" is not subject to § 112, ¶ 6 because the term would have connoted sufficient structure to those of ordinary skill in the art. The Court construes the term "record structure" to mean: computer hardware and software required to receive data signals, update files, and store information.

The limitations containing the term "record structure" provide that the record structure includes memory and "control means ... for accessing a file." The parties agree that "control means" is subject to § 112 ¶ 6. The plaintiffs point to the Processing Unit 92 and Memory 98, including cells C1 through Cn in Figure 4 or Processors PR1 through PRn in Figure 1 as the structures that correspond to "control means." The plaintiffs contend that an alternative structure for control means disclosed in the patents is a microcomputer or microprocessor, such as the Central Processing Unit 251 in Figure 9, programmed to perform the disclosed functions.

The defendants agree that the term "control means" corresponds with the structures the plaintiffs have identified, but the defendants contend that the term also must include the associated wiring and software.

The first step in means-plus-function analysis is to identify the function performed by the means; here, the function of the "control means" is to receive calling number identification data, to access a file, and to store data relating to certain of said individuals callers. The Court concludes that the patent discloses that the control means correspond to the Processing Unit 92 and Memory 98, including the cells, C1 through Cn in Figure 4 and the Processors PR1 through PRn in Figure 1. *See* Column 16, lines 24-28, and 44-46 of the '707 patent and Column 18, lines 21-25 of the '707 patent. In addition, "control means" corresponds to the software that enables these structures to perform the functions of receiving and storing data and accessing files. The Court concludes that the control means also correspond to a microprocessor, such as the Central Processing Unit 251 in Figure 9, programmed to perform the disclosed functions, as such a structure can also perform the disclosed *604 functions of the control means. *See* Column 5, lines 12-33, Column 9, lines 59 to 67, and Column 21, lines 9-20 of the '707 patent.

The core dispute between the parties in relation to the record structure limitations is over the meaning of the term "accessing." The plaintiffs argue that the term "accessing" includes anything a computer can do to a file, such as creating or opening records or storing additional information entered by callers. The defendants argue that the term "accessing" does not encompass deleting a file or creating or initiating a file because a file must exist before it can be "accessed." The defendants point to passages of the specification in which the ideas of updating a file are distinct from creating a cell in memory in the first instance. *See* Column 12, line 63-65, Column 16, lines 29-32, and Column 17, lines 29-30 of the '707 patent. Thus, they contend that the term "accessing" must mean retrieving a file that already exists.

In Claim 51 of the '309 patent, Katz recites a "record structure, including memory and control means, ... for updating a file." This indicates to the Court that the use of the word "accessing" in a similar limitation in another claim connotes a different meaning. Further, although Katz describes updating files and assigning cells in memory as different functions in the specification, there is nothing in the specification that indicates that the term "accessing" could not

encompass both of those functions.

Webster's Dictionary defines the verb "access" as "to get at, gain access to." Addenda to *Webster's 3rd New International Dictionary* at 55a (1986). As a noun, the term is defined as "permission, liberty, or ability to enter, approach, communicate with, or pass to and from" or "freedom or ability to obtain or make use of." The Court concludes that the term "accessing" means in the context of the Katz patents: gaining or obtaining the ability to enter or make use of files. The Court further concludes that the term "accessing" in the context of the Katz patents does not delineate or restrict the types of functions that may be performed on the files once they are accessed, such as updating files, creating new files, or deleting files.

e. "Qualification Structure"

[28] "Qualification structure" appears in many of the Analysis Control System Claims, and the limitations in which this term appears vary from claim to claim. [FN16] Claims 104 and 117 of the '707 patent and Claim 171 of the '863 patent include the broadest limitation including the term, providing for a "qualification structure controlled by said record structure for controlling access to said system by said individual callers." The other limitations containing this term vary on how and on what basis access to the system is controlled.

FN16. The term "qualification structure" appears in Claim 51 of the '309 patent, Claims 33, 104, and 117 of the '707 patent, and Claims 49, 50, 65, and 171 of the '863 patent.

The plaintiffs argue that this term is not subject to means-plus-function analysis because the term "qualification structure" was well known to those of ordinary skill in the art of building interactive voice applications. The plaintiffs contend that "qualification structure" would have brought to mind a computer processor and its software programs to those of skill in the art.

The defendants argue that this term is subject to means-plus-function analysis because it is written in functional terms and has no meaning to those of ordinary skill in the art without more information than is provided in the claim language. The defendants argue that the term does not escape application of § 112, ¶ 6 because it calls to mind a

computer processor and its programs, as plaintiffs contend. The defendants argue that the structure in Figure 4 that corresponds to this term is the Qualification Unit 93, the Processing Unit 92, the Memory 98, and the software required to qualify callers. See Column 6, *605 line 56 to Column 7, lines 36 and Column 16, lines 19-31 of the '707 patent. The defendants contend that the only software that is disclosed in the patents is in the context of the specific formats discussed by Katz, such as game shows, lotteries, and auctions.

The Court concludes that although the term "qualification structure" does not include the term "means," it is subject to § 112, ¶ 6. "Qualification structure" is written in functional terms and the Court is not convinced that it would not have brought to mind sufficient structure to a person of ordinary skill in the art without further reference to the specification. The function performed by the "qualification structure" is controlling access to the Katz system by individual callers. The structures disclosed in the specification that perform this function are the Qualification Unit 93 and the Processor 92 in Figure 4. [FN17]

FN17. For the term "qualification structure" in Claim 33 of the '707 patent, which provides for "[a]n analysis control system according to claim 26, wherein said limit on use restricts relates to a dollar amount," the defendants claim that the corresponding structures are the Qualification Unit (93) and Look-up Table (99) or Use Rate Calculator (100) in Figure 4, as well as the software required to perform the function of testing the data from callers to specify a basis for entitlement to assess to the Katz system. See Column 17, lines 38-62 of the '707 patent. The Court concludes that these structures designated by the defendants correspond to the qualification structure in Claim 33 of the '707 patent.

The qualification structure limitations raise additional construction issues. In Claims 49 and 50 of the '863, the qualification structure controls access to the Katz system "based on at least two forms of distinct identification including caller customer number data and at least one other distinct identification data element consisting of personal identification data." The parties agree that a "caller customer number" is a number that is assigned to a merchant's own customer; however, the defendants

contend that the caller customer number cannot be a credit card number because it is not assigned from a vendor to a customer. The defendants point to Column 11, lines 6-7 of the '863 patent, which describes the customer number in a mail order format as the number found on the customer's catalog. Thus, the defendants argue the customer number cannot be a credit card or charge number because such a number does not identify the caller as a customer of the merchant. In Column 11, lines 19-22 of the '863 patent, Katz states that a caller's customer number may be stored along with his credit card number and expiration date; the defendants argue that this indicates that a customer number and a credit card number are two separate items.

The defendants also argue that the second piece of identification data cannot be a personal identification number (PIN) or an expiration date from a credit card because such numbers are not unique to the individual, or "personal," without the corresponding credit card number or calling card number. The defendants point out that in Column 11, lines 1-5 and 19-22 of the '863 patent, Katz describes "other distinct identification data" in the mail order format as both a credit card number and its expiration date.

Along with the specification, the defendants point to the prosecution history of the '707 patent as support for their construction of "caller customer number data" and "other distinct identification data." In the May 8, 1995 Office Action during the prosecution of the '707 patent, the examiner rejected pending Claim 33, which provided for a "record structure with means for recording an identification card number and at least one other distinct identification data element," as unpatentable over the '554 patent to Asmuth. The examiner noted that Asmuth contained the "record structure" of Katz's claim and taught "that input 'caller data signals' may include a telephone credit card number (in the claim 'identification card number') ... and a 'distinct identification data element' consisting of 'personal identification data' (in the patent *606 a 'PIN')." Katz subsequently amended what was then Claim 33 to recite a qualification structure in a form similar to the claims at issue. See August 31, 1995 Amendment. In his comments to that amendment, Katz stated that he added a "qualification structure" requiring two forms of distinct identification including a caller's customer number to qualify a caller, and that the addition of the qualification structure and the fact that Asmuth stored data to define the virtual private network while his invention stored data developed by the callers rendered the Katz invention distinct.

As for the term "caller customer number data," the claim language does not support the narrow construction proposed by the defendants. That is, there is no support in the claims for the notion that this form of identification could not be a credit card or other charge number if such a number identified the caller as a customer of a particular merchant or vendor. The mention in the specification of storing the customer number as distinct from the credit card number was given as an example; similarly, the example of the customer number located on a customer's catalog was not provided as a requirement for a customer number.

The second term, "distinct identification data element consisting of personal identification data," is not subject to the narrow construction proposed by defendants either. The word "distinct" indicates that this second form of identification must be different than the first form of identification for each caller. The claim language also requires that this second piece of information contain something "personal" by way of identification, that is, data that is assigned to a person or identifies a person as an individual as opposed to a customer of a merchant or vendor. Nothing in the claim language instructs that this second piece of identification cannot be a *personal* identification number (PIN) or an expiration date from a credit card as long as the data identifies the individual. The prosecution history cited by the defendants does not require that the Court adopt the defendants' construction either; Katz did not state in the Amendment that his system would not accept a PIN as a form of personal identification.

Thus, based on the claim language, the Court construes "caller customer number data" to mean: a number assigned to a customer by a vendor or merchant or recognized by a vendor or merchant for the purpose of identification of the customer. The Court construes "other distinct identification data element consisting of personal identification data" to mean: data that identifies a caller as an individual which is distinct from customer number data.

f. "Means for Selecting"

[29] The parties agree that the term "means for selecting" is subject to means-plus-function analysis. This term appears in Claim 104 of the '707 patent, in dependant Claim 103. The function, which is set out in the claim language itself and described in Column 10, lines 34 through 43 of the '707 patent, that is performed by the "means" is selecting a specific one of a plurality of formats based on the called number. In Column 4, lines 52 through 59, the specification of

the '707 patent discloses that the "interface 20 incorporates ... DNIS ... capability (call data analyzer 20a)." As explained in line 62 of the same column through line 2 of Column 5, "DNIS" is a function of the communication facility which provides data indicating the called number and may be used with the interface 20 and call data analyzer 20a.

The defendants contend that the Automatic Call Distributor AC1, the Interface 20, and the Switch 21 correspond to the "means" in "means for selecting." However, the specification at Column 6, lines 37 through 48 indicates that the ACD merely receives the call signal from the caller and "associates" the called number through the interface and the switch to the specific processor that contains the particular format associated with called number. Similarly, in Column 10, lines 31-43, the specification *607 discloses that the communication facility couples the caller at the remote terminal to the correct processor to run the format selected by the called number through the ACD, the interface, and the switch. These passages do not specify which of these structures is performing the specific function of *selecting* the format based on the called number, as opposed to connecting the caller to the correct processor once the format has been selected.

The portion of the specification cited above from Columns 4 and 5 more clearly identifies that the interface and the CDA are the structures which perform the disclosed function. Thus, the Court concludes that the disclosed structure that corresponds to the "means" in "means for selection" is the Interface 20 and the Call Data Analyzer 20a in Figure 1. The ACD and the switch do not correspond to the means.

g. "Switching Structure"

[30] The term "switching structure" appears in Claims 49 and 50 of the '863 patent, and in context reads "switching structure coupled to said interface structure for switching certain select ones of said individual callers at said remote terminals to any one of a plurality of live operators wherein said live operators can enter at least a portion of said caller data relating to said select ones of said individual callers through interface terminals, which is stored in said record structure."

The plaintiffs contend that this term is not subject to means-plus-function analysis because the term "switch" is well known to those experienced in computer telephony and it brings to mind structure to those of skill in the art. The plaintiffs argue that

switching structure should be defined as "hardware with associated software used to route calls." (Pls.' Appendix at 164).

The defendants contend that the term "switching structure" is subject to analysis under § 112, ¶ 6 because the term lacks a sufficiently definite structure such that one of skill in the art would not know what structure to build without more information than is provided in the claim. The defendants argue that in the passages that discuss the switching structure, including Column 5, lines 51-55; Column 7, lines 13-17; Column 10, lines 45-52; and Column 11, lines 8-12 of the '863 patent, Katz did not disclose structure to perform the entire function performed by the means, which is switching callers to a live operator, where the live operator enters caller data for storage in the record structure.

During the *Markman* hearing, all of the experts referred to "switches" in their discussion of computer telephony at the time of the Katz patents. Similarly, the term "switch" was often used in contemporary references and prior art referred to by the parties at the hearing. The Court concludes that, based on these examples of the state of the art and the testimony of the experts, the term "switching structure" does not implicate § 112, ¶ 6. The Court concludes that the term would have connoted a specific set of structures to those of ordinary skill in the art. Thus, based on the claim language and the specification, the Court construes the term "switching structure" to mean: a device including hardware and associated software that can switch or route telephone calls or signals from one location or connection to another.

h. "Record Testing Structure"

[31] The term "record testing structure" appears in Claim 192 of the '707 patent. The limitation in full provides for a "record testing structure connected to receive and test said caller data signals including said calling number identification data and said caller personal identification data against previously stored calling number identification and caller personal identification data."

The plaintiffs argue that this term is not subject to means-plus-function analysis because it would have called to mind sufficient structure to those of ordinary skill in the art. The plaintiffs propose that the Court construe "record testing structure" to mean "a hardware device, with associated*608 software, used to store information and implement tests based on that information." (Pls.' App. at 155).

The defendants argue that "record testing structure" is subject to § 112, ¶ 6. The structures the defendants contend corresponds to the function performed by the record testing structure are the Processing Unit 96, the Qualification Unit 93, the Buffer Storage 97, either the Look-up Table 99 or the Use Rate Calculator 100, and the logic within the qualification unit to receive information regarding the calling number from the interface. Further, the defendants argue that the structure corresponding to "record testing structure" cannot be any computer with any type of memory; if this were the case, the defendants argue, § 112, ¶ 6 would have no meaning. The defendants contend that the processing unit must be programmed to receive decoded personal identification data from the callers and to test it against stored data for the callers.

The Court concludes that "record testing structure" implicates § 112, ¶ 6 because "record testing" is clearly a functional term and it does not connote any structure for performing the function of receiving and testing said caller data signals including said calling number identification data and said caller personal identification data against previously stored calling number identification and caller personal identification data. The Court concludes that the structures disclosed in the specification that correspond to "record testing structure" are the Processing Unit 96, the Qualification Unit 93, and the Look-Up Table 99 in Figure 4. *See* Column 10, lines 1 through 25 of the '707 patent. Contrary to the defendants' contentions, the described functions of the Use Rate Calculator 100 and the Buffer Storage 97 in Column 10, lines 1 through 25 of the '707 patent are not required to perform the function of receiving and testing signals against stored data called out in the claim. Thus, these structures do not correspond to record testing structure.

3. "Processing"

[32] The next term the parties presented to the Court for construction from the Analysis Control System patents is "processing." In Claims 104 and 117 of the '707 patent, the term appears in context as "means for processing at least certain of said data developed by said terminals and said calling number identification data relating to certain select ones of said individual callers." In Claim 192 of the '707 patent, the term appears in context as "analysis structure for receiving and processing said caller data signals under control of said record testing structure." The final analysis control system claim at issue in which "processing" appears reads "means for

processing at least certain of said data developed by said remote terminals relating to certain select ones of said individual callers." Claim 171 of the '863 patent.

The parties agree and the Court concludes that the phrase "means for processing" is a means-plus-function limitation subject to § 112, ¶ 6. The structures corresponding to the "means" in "means for processing" include the Processing Unit 92 in Figure 4, the Central Processing Unit 251 in Figure 9, or the Processors PR1 through PRn in Figure 1.

The defendants argue that the term "analysis structure" in "analysis structure for ... processing" is also subject to means-plus-function analysis. To support their position, the defendants contend that in the '739 patent, which shares the same specification as the '707, '863, and the '309 patents, Katz used the term "analysis means" in limitations similar to the limitations which contain "analysis structure." The plaintiffs contend that "analysis structure" had meaning to those in the art and connote computer hardware and software used to analyze data, such as a processor. (Pls' App at 160-61). The Court concludes that the term analysis structure is written in functional language and does not connote sufficient structure to avoid the application *609 of § 112, ¶ 6, despite the presumption to the contrary. The function of the analysis structure in the terms of the claim language is "receiving and processing said caller data signals under control of said record testing structure." The structures that correspond to "analysis structure" are the same as those that correspond to the "means" in "means for processing," i.e., the Processing Unit 92 in Figure 4, the Central Processing Unit 251 in Figure 9, or the Processors PR1 through PRn in Figure 1.

The core dispute between the plaintiffs and defendants is whether "processing," as used in "means for processing" or otherwise in the patents, requires a specific type of processing. The defendants contend, in the context of their means-plus-function arguments, that the structures that correspond to the "means" in "means for processing" also include the software that performs the function of processing, and because the only type of processing disclosed in the specification is statistical analysis to isolate a subset of callers in the context of the specific formats disclosed, the computer must be programmed with software that performs this particular kind of processing. Specifically, the defendants argue that all of the disclosed formats in the specification, including a health poll format, mail order format, instant lottery format, auction sale

format, television game show formats, and television poll format, require the use of statistical analysis to isolate a subset; thus, they argue, "processing" and "statistical analysis" are synonymous. The defendants also argue that if the term "processing" is given a broad, unlimited meaning, it would render other limitations that call out specific functions of a computer surplage, such as "accessing" a file, "storing" data, and "testing" data.

The plaintiffs argue that the defendants' proposed construction of "processing" has no support in the claim language, and that the defendants are attempting to define the function of "processing" by importing structural limitations from the specifications. The plaintiffs argue that the term should be given its ordinary meaning, which is "performing some operation or sequence of operations on data and/or telephone calls." (Pls.' Appendix at 7).

The term "processing," even as part of the phrase "means for processing," is not subject to means-plus-function analysis, so an immediate resort to the specification for meaning is not appropriate unless there is some "hook" in the claim language on which limitations from the specification may be hung. *See Renishaw*, 158 F.3d at 1252. Thus, if the term "processing" in the context of the claim language had a common, ordinary meaning to those of ordinary skill in the art, that meaning is the proper construction of the term, even if it is broad. *See Johnson*, 175 F.3d 985, 989.

Contemporary technical dictionaries indicate to the Court that "processing" had a broad meaning to those of skill in the art for some time. In the context of these claims it is clearly implied that the processing is being performed on data. The *Standard Dictionary of Computers and Information Processing* by Martin H. Weik (1969) defines the verb "process" as follows: "In data processing, to handle, manipulate, or perform some operation or sequence of operations on data in accordance with a specified or implied algorithm, usually as a series of discrete steps, including operations such as compute, assemble, compile, interpret, generate, translate, store, retrieve, transfer, select, extract, shift, search, sort, merge, transliterate, read, write, print, erase, and punch. The processing usually results in a solution to a problem." (Ex. 458). In the *Computer Dictionary*, by Charles J. Sippl (1966), the term "process" is defined as a "generic term that may include compute, assemble, compile, interpret, generate, etc." (Ex. 498). In the *Dictionary of Computing and New Information Technology*, by A.J. Meadows et al.

(1984), the term "data processing" is defined as including "all clerical, arithmetical and logical *610 operations on data. Data processing in the context of information technology always implies the use of a computer for these operations." (Ex. 483).

The claim language also shows that the term "processing" does not by itself indicate statistical analysis to isolate a subset of callers. Many claims, dependent and independent, in the '707, '863, and '309 patents specifically call out processing to isolate a subset of callers. For example, Claim 169 of the '707 patent specifically calls out processing to isolate a subset of callers. Claim 174 of the '863 provides for "subsequent" processing that isolates a subset of callers; however, Claim 171, upon which Claim 174 depends, does not require such a parameter on the initial processing. Similarly, Claim 181 of the '863 provides for "processing ... responsive to said approval signals." Claim 185 of the '863 patent, which is dependant on Claim 181, specifically provides for processing to isolate a subset callers. The fact that "processing" is called out in some claims, and then specifically "processing to isolate a subset of callers" is called out in other claims, some of which are dependant on the claims that call out "processing" generally, indicates that the independent claims which contain the term "processing" do not necessarily require that the processing perform statistical analysis to isolate a subset of callers or data. *See Rodime PLC v. Seagate Technology, Inc.*, 174 F.3d 1294, 1306 (Fed.Cir.1999). If the term "processing" were given the limited scope explicitly called out in the dependent claims, those claims would be rendered superfluous, a result that should be avoided if the claim language will allow under the doctrine of claim differentiation. *See Laitram Corp. v. Rexnord, Inc.*, 939 F.2d 1533, 1538 (Fed.Cir.1991). [FN18]

FN18. The defendants contend that under *Laitram*, claim differentiation does not apply to means-plus-function limitations; however, the term "processing" is the functional language of the claim and is not subject to means-plus-function analysis.

There is nothing in the specifications that requires the Court to alter the broad meaning of "processing" conveyed in the claims, even though the subject of statistical analysis to isolate a subset of callers is repeatedly discussed. The name of the patents under consideration is "Telephonic- Interface Statistical Analysis System." At several points in the

specification, Katz describes his invention generally or one of the formats generally as performing statistical analysis to isolate a subset of callers. *See Column 1, line 58-67 of the '707 patent* (providing that "[i]n general, the present invention comprises a telephonic-interface system and related process ... in a variety of different interface formats or programs, as to ... statistically analyze acquired data, as in combination and in association with external data (time independent), and accordingly to isolate a subset of the callers with variable identification"); *Column 2, line 22-26 of the '707 patent* (providing that "in accordance with various formats, acquired data is processed in statistical relationship, or in relation to applied external data"); *Column 5, lines 53-55 of the '707 patent* (providing that "[i]n general, the processing evolves a subset (at least one caller) the members of which may be verified or confirmed"); *Column 21, lines 33-38* (providing that "[i]n view of the above explanation of exemplary systems, it will be appreciated that other embodiments of the present invention may be employed in many applications to accumulate statistical data, process such data, and define subsets of callers of concern").

It is no surprise that Katz discussed statistical analysis to isolate a subset of callers in the specifications to the '707, '863, and '309 patents because he specifically called out this function in some, but not all, of the claims in those patents. Conversely, there is no mention in the specifications to the '285 and '150 patents of "statistical analysis" or "isolating a subset of callers" because none of the claims in those patents specifically call out such processing, even though the term "processing" *611 appears in the claims of those patents. While the specifications of the '707, '863, and '309 patents call out several embodiments of the Katz invention in which processing is performed to isolate a subset of callers through statistical analysis, not all of the claims that contain the broad term "processing" require this limitation. Whether, as defendants argue, Katz's claims are broader than his disclosure in the specifications of his patents, is a question for another day and does not alter the construction of "processing," a term that clearly had a broad and common meaning to those of ordinary skill in the art.

The portions of the prosecution history highlighted by the defendants do not conflict with the common understanding of "processing." During the prosecution of the '968 patent, from which the patents-in-suit descended, Katz distinguished his invention from a collection of prior art in part on the basis that his invention variously incorporated "(1)

personal participant selectivity, (2) participant record development and (3) analytical inter-related data processing with respect to developed records." (Ex. 33, March 2, 1988 Amendment at 14). The defendants argue that this statement by Katz indicates that all of his claims, including pending Claim 37 which did not explicitly call out "statistical analysis to isolate a subset," incorporate statistical analysis or "inter-related processing." However, pending Claim 38, which was dependent on Claim 37, added the specific limitation of "processing said statistical data as to isolate a subset of said individual callers." Katz's assertions during the prosecution of the '968 patent that his invention *variously* incorporated three elements does not require, and this Court will not, import the limitation of "analytical inter-related data processing" or "statistical analysis to isolate a subset" into the definition of "processing" in claims of the '968 patent, or of any of the patents at issue in the *Markman* hearing.

During the prosecution of the '923 patent, which has the same specification as the '707, '863, and '309 patents, Katz attempted to distinguish his invention from a patent to Riskin by stating that the Riskin patent did not "suggest any interrelated processing between callers, nor are processing files formed other than merely to accommodate billing." (Ex. 38). In an Appeal Brief dated September 11, 1992 during the same prosecution, Katz described his invention as systems that "statistically acquire data, as in combination with and in association with external data (time independent), and accordingly isolate a subset of the callers with verifiable identification." (Ex. 38). Similarly, in the Information Disclosure Statement dated January 31, 1996 at 13 during the prosecution of the '185 patent, Katz informed the PTO that "[i]n various applications, Applicant's inventive systems have utilized an operation of processing data to isolate a subset of callers. In a refined form, the operation involves processing data from callers in combination to isolate a select subset of the callers by 'interrelated' processing." (Ex. 56). These statements by Katz indicated that his patents suggest or include interrelated processing or statistical analysis to isolate a subset of callers, which is clear by the claims which explicitly call out this function. However, none of these statements by Katz indicates that any particular claim includes this type of processing or that all processing suggested in his patent is of this type.

Based on the foregoing, the Court construes the term "processing" to mean: manipulation of data which performs some operation or sequence of operations on the data.

4. "Format"

[33] The next term presented to the Court for construction is "format." This term appears in many of the claims at issue in the *Markman* hearing. For example, Claim 104 of the '707 patent provides for "[a] system according to claim *612 103, wherein said called number identifies a specific one of a plurality of operating formats for interface." Claim 192 of the '707 patent provides for "[a]n analysis control system according to claim 191, wherein said select called number (DNIS) identifies a select format from a plurality of distinct operating formats."

The plaintiffs contend that the term "format" as used in the patents had a common meaning to those of ordinary skill in the art, and they ask the Court to define "format" as "a computer program, including instructions and/or pre-recorded messages, for providing a service to callers." (Pls.' Appendix at 7).

The defendants argue that although the term "format" only explicitly appears in some of the claims, the concept of "format" is implicit in all of the claims and corresponds to the "analysis control system" that is called out in the claims under consideration. Arguing that the term is imprecise and ambiguous without reference to the specifications, the defendants contend that "format" is defined by Katz in the specification as analysis that isolates a subset of callers and should be limited to include only the seven formats disclosed in the specifications, including mail order, auction, health poll, television game show, television game show requiring participation numbers, lottery, and television poll formats. Alternatively, the defendants argue that if the Court does not limit "format" to the seven disclosed embodiments, it should define "format" by common threads present in all the formats disclosed; for example, the defendants contend that a format must include a data acquisition phase in which callers enter or are assigned data for processing, and a processing phase in which that data for multiple callers is statistically analyzed with like data for other callers or with common external data to isolate a subset of callers participating in the format.

Construction begins with the claim language, and the language here is instructive. Considering Claim 192 of the '707 patent, which is quoted above, it is clear that "analysis control system" and "format" are not the same concept, as the claim includes both terms and indicates that the format is only a part of the analysis control system.

The language of other claims which were not designated for the *Markman* hearing supports a construction of format that does not require statistical analysis and is not limited to the seven disclosed embodiments of the specifications. In some claims, Katz specifically limited the format in a claim to a particular type of format. For example, Claim 42 of the '707 provides for a "promotional format," Claim 45 of the '863 patent provides for an "order format," Claim 46 of the '863 provides for a "television initiated mail order operation," and Claim 56 of the '863 provides for a "merchandising format." The fact that these particular formats are called out in some of the claims indicates that the term "format" alone is not limited to any particular format or set of formats.

The specifications of the patents do not indicate that "format" must include statistical analysis or be limited to the disclosed embodiments. Although the Background and Summary of the Invention in the specifications to the '707, '863, and '309 patents describes the invention as generally performing certain functions, including statistically analyzing data, it does not explicitly require that the "format" include statistical analysis or that the "format" is performing the statistical analysis. See Column 1, lines 43- 47, 57-67 of the '707 patent; Column 2, lines 4-14, 22-26 of the '707 patent. In addition, the language of the Background and Summary of the Invention is exemplary; it provides what the invention is *generally* or what it *may* include or perform. See Column 1, lines 43 through 67 of the '707 patent. Similarly, in describing the seven disclosed embodiments of his invention, Katz repeatedly stated that the examples were illustrative or exemplary. See, e.g., Column 9, lines 48 through 51; Column *613 11, lines 66 through 67; Column 12, lines 1 through 19 of the '707 patent.

Figure 3 of the '707, '863, and '309 patents is a flow diagram for one operating format of the Katz system. See Column 2, lines 44-45 of the '707 patent. The diagram illustrates a series of commands or instructions for the computer and the sequencing of those commands, including the content and sequence of voice prompts and the operations on data to be stored in or retrieved from memory. There is no indication in the figure of statistical analysis or that the format is limited to the disclosed embodiments. To limit the term "format" in these patents to the disclosed embodiments would violate the ruling of *Comark Communications, Inc. v. Harris Corporation*, 156 F.3d 1182, 1187 (Fed.Cir.1998) and similar cases.

The prosecution history cited by the defendants does not support their proposed construction of "format." During the prosecution of the '023 patent, the examiner rejected certain of Katz's claims as anticipated by a patent to Riskin because the Riskin patent described various "formats," including stock quotation, movie directory, and product information services. (Ex. 48). Similarly, during the prosecution of the '120 patent, the examiner rejected certain of Katz's claims as being unpatentable over a group of references because the claims contained "game" or "operating process" formats that were selected through the use of the dialed number. These statements indicate that the examiner did not consider the Katz formats to be limited to the seven embodiments disclosed in the specifications because the examiner rejected some of Katz's claims as unpatentable over patents which contained "formats" other than the seven described by Katz. The defendants pointed to no statements by Katz during the prosecution of the patents in which he disclaimed coverage of any formats other than the formats discussed in the specifications.

Based on the foregoing, the Court construes the term "format" to mean: a computer program that sets forth the content and sequence of steps to gather information from and convey information to callers through pre-recorded voice prompts and messages.

5. "Multiple Formats" or "Plurality of Formats"

[34] The parties also disagree over the proper construction of the terms "plurality of formats" and "multiple format." [FN19] The plaintiffs argue that the terms "plurality" and "multiple" clearly had the common and plain meaning of "more than one" to one of ordinary skill in the art. The defendants do not contest that these terms mean "more than one," but rather they argue that because it is impossible to know whether a system is running on one format or more than one format, "multiple" or a "plurality of" formats must have three characteristics. First, each format must be a separate computer program and not just different questions or branching in the same format. Second, each format must have distinctly different subject matter and functionality. Third, each format must be reached by a different and unique called number.

[FN19] These terms appear in the Conditional Format Claims at issue in the '150 and 285 patents and the Participation Number claims at issue in the '707 and 863 patents.

The plaintiffs agree that subroutines or branching within a format do not constitute multiple formats. The specification of the '707 patent confirms this. See Column 18, line 37 (noting in the context of the television game show format that "the basic format can remain the same, only the questions change by time zone"). The plaintiffs also agree that one phone number cannot be used to reach different formats. The specifications support this understanding of "multiple formats" or "plurality of formats." See Column 12, lines 5-6 (noting that one of the common structural elements of the Katz invention is "utilizing the called number to select a *614 specific operating format"). However, the patents do not support the defendants' contention that each format of a plurality of formats or multiple formats must be assigned a unique called number.

The patents also do not support the defendants' contention that each format in a plurality of formats or in multiple formats must be different in the function it performs or in subject matter. In the '150 patent specification, Katz states that "[e]xemplary selected formats of the processor might include: public polls, lotteries, auctions, promotions, sales operations and games;" the use of plural to describe the formats indicates that the processor could run more than one of any type of format. Column 2, line 65 to Column 3, line 1 of the '150. Thus, if a processor is running a series of formats, even if all are lotteries or all are mail order formats, this would constitute a "plurality of formats" or "multiple formats."

The prosecution history cited by the defendants does not dictate that the Court should alter the construction of "multiple formats" or "plurality of formats" that is clear from the claim language and specifications. In an Amendment dated January 11, 1990 during the prosecution of the '506 application, Katz amended one of his claims to recite "a plurality of distinctly different operating process formats." (Ex. 36). However, the examiner subsequently rejected this claim as amended, and this particular language does not appear in any of the claims at issue. During the prosecution of the '150 patent, Katz noted in an Amendment dated October 5, 1989 that the patent to Riskin "contains no suggestion of a multiple format processor nor structure for conditioning accepted calls." [FN20] (Ex. 35). The Court concludes that Katz was not limiting the term "multiple format" to require formats with different subject matter or functionality in this statement to the PTO.

FN20. Katz made a similar statement in an Amendment dated June 30, 1992 during the prosecution of the '285 patent. (Ex. 50).

Based on the foregoing, the Court construes the terms "plurality of formats" and "multiple formats" to mean: more than one format. The terms do not include the subroutines or branching within a single format.

6. "Remote Terminals"

[35] The parties dispute the meaning of the term "remote terminals," which appears in claims throughout the body of patents to Katz. The parties agree that the term refers to traditional telephones, but the plaintiffs contend that the term may comprise other devices as well, such as wireless phones or a computer that can access the telephone network.

The plaintiffs contend that a person of ordinary skill in the art reading the Katz patents would understand that "remote terminals" could refer to devices other than traditional telephones. The defendants argue that there is no support in the specifications for any device other than traditional telephones.

The claim language in the patents does not support the defendants limited definition. Claim 96 of the '707 patent is exemplary of many of the claims that contain the term "remote terminals." Claim 96 provides for "[a]n analysis control system for use with a communication facility including remote terminals for individual callers, wherein each of said remote terminals may comprise a conventional telephone instrument including voice communication means and digital input means in the form of an array of alphanumeric buttons for providing data." The use of the words "may comprise" indicates that remote terminals includes, but is not limited to, traditional telephones.

The specification does not limit "remote terminals" to conventional telephones only. In Column 3, line 55 through Column 4, line 18 of the '707 patent, Katz describes *615 the remote terminal illustrated in Figure 1. Although Katz describes what would be considered a traditional or conventional telephone, the specification is clear that the remote terminal in Figure 1 is the illustrative embodiment and that the description of it is exemplary.

The prosecution history cited by the defendants does not restrict the definition of "remote terminals." In

the prosecution history of the '968 patent, in an Amendment dated March 2, 1988, Katz attempted to distinguish his patent from other patents containing, among other devices, "a special form of terminal apparatus at a data source" by noting that "[c]ontrary to the operations of the systems described in the above references, applicant's system interfaces with a *conventional telephone instrument*." (Ex. 33). Katz went on further to explain regarding "special-purpose telephone instruments" that "[c]learly, such telephones could be employed in cooperation with applicant's system; however, a very significant feature of applicant's system is its ability to function cooperatively with a conventional telephone instrument. Accordingly, specific forms of transaction telephone instruments or data phones are not deemed to be particularly applicable to the claims as set forth herein...." Contrary to the defendants' contention, the Court concludes that this statement by Katz indicates that his system could accommodate conventional telephones, as well as other devices, not that it was limited to use with conventional telephones.

Thus, the Court concludes that there is nothing in the claim language, specifications, or prosecution history that indicates that "remote terminals" can only include conventional or traditional telephones and not wireless phones or computers connected to the telephone network. Based on the foregoing, the Court construes "remote terminals" to mean: a device or instrument for connecting callers to the telephone network for voice and digital communication, including, but not limited to, conventional telephones.

7. "DNIS" and "called number identification data"

[36] The next terms the Court must construe are "DNIS" and "called number identification data." These terms appear in many of the Analysis Control System claims, including Claim 104 of the '707 patent which reads "a system according to claim 96 for use with a communication facility having a capability (DNIS) to provide called number identification data to identify a called number from a plurality of different numbers for calling," [FN21] Claim 192 of the '707 patent which reads "an analysis control system according to claim 183, wherein said communication facility automatically provides called number identification data (DNIS) to identify a select called number from a plurality of called numbers," and Claim 65 of the '863 patent which reads "an interface structure ... including means to automatically receive call number identification

signals (DNIS) to identify a select format from a plurality of formats." [FN22]

FN21. This language is found in Claim 103 of the '707 patent, upon which Claim 104 depends.

FN22. The terms "DNIS" and "called number identification data" appear in claims other than the Analysis Control System claims; the parties agree and the Court concludes that the terms have a uniform meaning across all of the claims at issue.

The parties agree that the terms "DNIS" and "called number identification data" have the same meaning and are used interchangeably in the patents. The plaintiffs contend that the terms mean "a signal representative of the number called."

The defendants argue that DNIS or called number identification data must represent the full dialed number, which is seven or ten digits. The defendants also contend that DNIS or called number identification data cannot be internal routing *616 numbers or vector directory numbers; because the claims indicate that the communication facility provides DNIS or called number identification data *to* the interface and the interface *receives* DNIS or called number identification data *from* the communication facility, the defendants argue that DNIS or called number identification data cannot be any signal sent internally in the communication facility.

The Court concludes that the terms "DNIS," "called number identification data," and like terms have the same meaning and are used interchangeably in the patents. The term "DNIS" is an acronym for "dialed number identification service." Both "dialed number identification service" and "caller number identification data" contain the word "identification," and the plain import of these phrases is a signal or data that identifies the number that has been called. Thus, the language of the claims does not support the defendants' argument that "DNIS" or "called number identification data" must be the full seven or ten digit dialed number. The claim language does not support the defendants' argument that "DNIS" or "called number identification data" cannot include internal routing numbers within the telephone network; indeed, such numbers are neither mentioned in nor relevant to the Court's construction of the claims at

all.

The passages of the specifications to which the defendants point do not support the limited construction proposed by the defendants either. In Column 12, lines 2 through 6 of the '707 patent, Katz describes one of the structural elements that have reoccurring significance in his inventions as "utilizing the called number to select a specific operating format." The defendants emphasize that Katz lists a ten or seven digit number as an example of the called number in the specifications; in Column 6, lines 41-45 of the '707 patent, Katz explains that "[r]eceiving the call signal, the automatic call distributor AC1 associates the called number ((213) 627-3333, rendered available using standard telephone DNIS techniques) through the interface 20 and the switch 21 to attain connection with the specific processor...." However, the mere reference to "called number" does not restrict "called number identification data" to a certain number of digits, nor is there reason to restrict the terms "DNIS" and "called number identification data" to the examples provided by Katz in the specifications.

Further, in Column 4, lines 62 through 64 of the '707 patent, Katz stated that "[g]enerally, DNIS capability is a function of the communication facility C (composite telephone system) to provide called terminal digital data indicating the called number." "Data indicating the called number" undermines the defendants contention that the data must be the full dialed number. Similarly, in Column 10, lines 39 through 42 of the '707 patent, Katz stated that "[n]ote that the communication facility C provides the dialed number ("(213) 627-4444") to the processing system P1 through well known telephonic equipment DNIS." These passages confirm that DNIS or called number identification data must only be a signal that identifies the called number and need not be only the seven or ten digit number.

The prosecution history cited by the defendants does not alter the meaning of the terms conveyed by the claim language and specifications. The first set of statements by Katz in the prosecution history, the defendants argue, indicates that DNIS or called number identification data must be the full dialed number. In an Information Disclosure Statement dated September 20, 1994 submitted during the prosecution of the '285 patent, Katz attempted to distinguish his claims from a group of patents and other references. (Ex. 50). Katz described the '012 patent to Matthews et al. as a "system identified as Direct Inward Dialing or 'DID,' which involves the capability of utilizing the last three or four digits of a

called number for routing to a desired recipient's telephone" and distinguished *617 the system as "quite different from the combinations set forth in the claims in that, neither DNIS signals were utilized nor were formats selected. Additionally the system was void of either qualification or operator control...." [FN23]

FN23. Katz made an almost identical statement regarding the Matthews patent to the PTO in the prosecution of the '734 patent. (Ex. 61).

Similarly, in a Supplemental Amendment dated March 14, 1995 during the prosecution of the '734 application, Katz also distinguished the '906 patent to Matthews on the basis that the Matthews system "utilizes so called 'DID' signals for accessing an individual program.... However, again, the structure and operation is distinct from Applicant's techniques utilizing DNIS for format selection and further involving testing." (Ex. 61).

It is unclear from these two statements however, whether Katz was basing his distinction on the difference between the number of digits or content of a DID signal versus a DNIS or caller number identification data signal, or if he was basing his distinction on the different *functions* that those signals performed. What is clear is that Katz did not explicitly state that DNIS or called number identification must include all of the digits of the number dialed.

The second set of statements by Katz in the prosecution history, the defendants argue, indicate that DNIS or called number identification data cannot be internal routing numbers in the telephone network. In the September 20, 1994 Information Disclosure Statement, Katz described the '682 patent to Vij et al. as "another utilization of 'DID' operation to route calls. Again, the operation is quite distinct from DNIS operation and is further distinguished from the claims herein on the basis of testing, computer interface and so on." [FN24] (Ex. 50). In the same Information Disclosure Statement, Katz described the '500 patent to Binkerd et al. as "another alternative for routing calls utilizing inputs by a caller. Again the system is quite distinct from the utilization of DNIS capability." (Ex. 50). During the prosecution history of the '075 patent in the Preliminary Amendment dated July 17, 1990, Katz stated that "[r]ecognizing that the Riskin patent discloses the utilization of ANI and DNIS signals to accomplish

telephone routing, it is respectfully submitted that applicant's system involves entirely different philosophical considerations and structure. The provision of an interface system utilizing these signals, not only to select an operating format but further to accomplish associative data, is submitted to involve a patentable distinction." (Ex. 40). In an Amendment dated August 31, 1995 during the prosecution of the '707 patent, Katz attempted to distinguish the '336 patent to DeBruyn for an international lottery system on the basis that the system indicated direction or routing to different processors for individual language operation in response to different dialed numbers, but "no suggestion of DNIS appears nor is the system otherwise pertinent." (Ex. 51).

FN24. Katz made an almost identical statement regarding the Vij patent to the PTO in the prosecution of the '734 patent. (Ex. 61).

These statements indicate that Katz distinguished his inventions from other patents on the basis of the comparative functions of the systems; the systems in the other patents use signals to route telephone calls, not select a format from a group of formats or to store data associated with those signals. However, Katz never informed the PTO that the same numbers that other systems used to route calls could not be used to identify the called number and select a format. In short, it is not clear from Katz's statements, contrary to the defendants' contention, that "internal routing numbers," to the extent they can identify the called number, could not be included in the meaning of called number identification data or DNIS, as used in the Katz patents.

***618** Based on the foregoing, the Court concludes that the terms "DNIS" and "called number identification data" are synonymous and mean: a signal or data that identifies the number called.

8. "ANI" and "Calling Number Identification Data"

[37] "ANI" and "calling number identification data" are the next terms presented to the Court for construction. In general, the term "calling number identification data" appears in the claims and the term "ANI" is used in the specifications. The parties agree that "ANI" and "calling number identification data" have the same meaning.

In the Analysis Control System Claims, the term "calling number identification data" appears in context as "receiving said calling number identification data." See Claims 33, 104, 117, and 192 of the '707 patent and Claim 171 of the '863 patent. In the Conditional Format claims, the terms appear in context as "call data signals as to indicate ... calling numbers" or "calling numbers as additional call data signals." See Claim 15 of the '150 patent and Claims 17 and 24 of the '285 patent. In the Products Carrying Participation Numbers Claims, the terms appear in context as "call data signals indicative of calling number identification data." See Claim 44 of the '707 patent and Claim 79 of the '863 patent. These terms appear throughout the Katz patents. The parties agree and the Court concludes that the terms have a consistent meaning across the claims at issue.

The arguments of the parties regarding the proper construction of these terms mostly mirror their arguments regarding "DNIS" and "called number identification data." The plaintiffs argue that these terms mean a signal provided by the telephone network that indicates all or part of the calling number. (Pls.' Appendix at 31, 69). The defendants argue that "ANI" and "calling number identification data" must refer to the entire calling number, do not include routing or billing signals used within the telephone network, and must identify the geographic location of the caller such that wireless phones are excluded. The arguments of the defendants will be addressed in turn.

There is no indication in the claim language that "ANI" or "calling number identification data" must be the full calling number; indeed many of the claims call out a signal that *indicates* the calling number. The specifications do not support the defendants' contention either. In Column 4, lines 62 through 67 of the '707 patent, Katz notes that "ANI capability is a similar function whereby the digital data indicates the calling number with calling terminal digital signals." The defendants contend that because Katz used ten digit phone numbers in his examples in the specifications, the terms "ANI" and "calling number identification data" must include the full seven or ten digit number. In Column 6, lines 62 through 65 of the '707 patent, Katz describes two ways in which the calling number could be transmitted to the Katz system; he notes that "the caller would push the buttons in sequence to indicate his telephone number, e.g. (213) 627-2222." Alternatively, the interface 20 can accept the calling number (213) 627-2222 according to its provision by standard ANI equipment of the communication

facility C." In Column 7, lines 29 through 30 of the '707 patent, Katz notes that "the first portion, section 53, contains a form of identification data, i.e., the caller's telephone number, i.e. (213) 627-2222."

The first passage of the specifications cited by the defendants is provided as an example of a calling number. It is clear that the number from which a caller is calling would be a full seven or ten digit number; however, the specification is silent about what the *signal* that conveys this number, the ANI or the calling number identification data, would include. The second passage of the specifications cited by the defendants describes an example of *619 data that is stored in a cell as represented in Figure 2, not "ANI" or "calling number identification data." Neither of these passages indicates that "ANI" or "calling number identification data" must include any particular number of digits.

As for the defendants' second argument, the claim language does not support a construction of "ANI" or "calling number identification data" that excludes routing signals or billing signals that are used within the telephone network. This argument is essentially the same as the defendants' argument that "communication facility" means that the Katz system must operate outside of the telephone network, which the Court addressed above and will not repeat here. In short, neither the claim language nor specifications mention routing or billing signals as either included or excluded in the definition of "ANI" or "calling number identification data." Determining whether routing or billing signals are signals which indicate the calling number is not a matter of claim construction, and as such, is not properly before the Court.

Further, the prosecution history cited by the defendants neither confirms their proposed construction of "ANI" or "calling number identification data" nor conflicts with the plain meaning of the terms "ANI" and "calling number identification data" conveyed by the claim language and specifications. In an Amendment dated April 15, 1996 in the prosecution of the '751 patent, Katz attempted to distinguish the '020 patent to Fodale to support his amendment. Katz described the Fodale patent as providing a system which blocks delinquent telephone terminals from making toll calls by comparing routing and billing information provided by the local telephone office against a list of delinquent terminal numbers. Katz notes that in one arrangement in the Fodale patent, ANI provides the calling or billed number. Katz stated that "[n]o reference to ANI can be located in providing the

caller number, which presumably is otherwise available to the local toll network." (Ex. 67). The defendants contend that Katz was referring to "his" version of ANI in this last statement and distinguishing signals that are sent outside the telephone network from the billing signals or routing signals that are internal to the telephone network. The defendants' interpretation of this statement by Katz is inconsistent with his statement that Fodale uses ANI to provide the calling or billed number in one arrangement. While the meaning of Katz's statements in this Amendment is not completely clear, the Court concludes that these statements clearly do not convey the message that the defendants would attribute to them, that Katz was disclaiming coverage of routing and billing signals.

As for the defendants' final argument, there is no requirement in the claim language that "ANI" and "calling number identification data" must identify the geographic location of callers. The defendants argue that the "ANI" and "calling number identification data" must disclose the geographic location of the caller because the formats disclosed in the specifications use ANI to screen callers based on their geographic area. In his description of a television game show format in Column 18, lines 37 through 44, lines 56 through 62 of the '707 patent, Katz proposes that different questions be used for different geographic locations to accommodate the different time zones and that "area code numbers afford an effective geographic classification of callers." In the context of the discussion of a television poll format in Column 20, line 16 through 22 of the '707, Katz proposes that callers may be screened by geographic area according to their telephone number which is provided by ANI equipment. The defendants contend that because Katz uses the geographic location of the callers taken from the calling number in these formats, the Mobile Identification Number or MIN supplied by wireless phones cannot constitute "calling number identification data" or "ANI" because MIN does not supply an *620 accurate indication of the callers geographic location. However, in the discussion of an instant lottery format in Column 12, lines 46 through 47 of the '707 patent, Katz proposes the use of a caller's telephone number and date of birth to qualify a caller based on his age; in this example, the calling number is not used to qualify a caller based on his geographic location. Similarly, Claims 165 and 175 of the '707 patent call out the use of calling numbers for purposes other than determining geographic limitations. To adopt the defendants' construction of the terms at issue to always require the identification of the geographic location of the

caller would not only improperly limit the claims by the examples disclosed in the specifications, but also would limit the claims in a manner inconsistent with some of the other examples in the specifications. The Court concludes that there is no basis in the claim language for importing such a limitation.

Based on the foregoing, the Court concludes that "ANI" and "calling number identification data" are synonymous in the claims at issue in the Katz patents and mean: a signal that identifies the calling number, i.e. the number from which a call originated.

9. In-band or Out-of-band Signaling

[38] The defendants have requested that the Court determine whether the patents require the signals indicating the called and calling number as just discussed to be transmitted "in-band," or along a voice channel in the form of analog signals, and not "out-of-band" via an Integrated Services Digital Network (ISDN) connection. The plaintiffs contend that the patents are silent on whether the signals must be transmitted, or in-band or out-of-band, and thus no particular manner of connection or mode of transmission of these signals is required.

The parties presented expert testimony and argument on the difference between in-band and out-of-band signaling. In short, a signal carrying data may be transmitted over a telephone connection that travels in the same channel or line as the voice signal travels; such a data signal is said to be traveling "in-band." Traditional telephone connections are set up in this manner. A signal carrying data may be transmitted over a telephone connection in a channel or line that is separate from the channel or line that the voice signal travels; such a data signal is said to be traveling "out-of-band." An ISDN connection, which provides two voice channels and one data channel in the same connection, is an example of "out-of-band" signaling. A T1 connection provides for 24 channels or lines in the same connection; a data signal may travel in-band with each of the 24 voice channels or out-of-band in one of the channels along with the other 23 voice channels. (See Defendants' Demonstrative Exhibit 36).

To support their argument that the patents require in-band signaling, the defendants contend that the limitation in Claim 96 of the '707 patent which reads "means to provide signals representative of data developed by said remote terminals and for receiving said calling number identification data" is a means-plus-function limitation, and therefore, the Court must determine the structure disclosed in the

specification that corresponds to the "means." [FN25] The defendants contend that the only structure disclosed in the specifications is an in-band connection. For support for this argument, the defendants rely heavily on Figure 1 in the '707, '863, and '309 patents. Figure 1 illustrates one hundred calls or lines coming into the Automatic *621 Call Distributor AC1, fifty lines coming from the ACD to the Interface 20, and fifty lines coming out of the Interface 20. *See also* Column 4, lines 24 through 27 and Column 5, lines 3 through 13 of the '707 patent. The defendants contend that if Katz contemplated that the call data signals would be sent out-of-band, he would have had to show 51 lines going into and coming out of the Interface to allow for the separate data line in an ISDN connection. The defendants contend that Katz's disclosure of in-band signaling in Figure 1 is the structure to which the "means" corresponds. However, Figure 1 is an illustration of how the Katz system may be set up. Even assuming that the defendants' contention regarding the figure is correct, the Court concludes that Figure 1 does not require that the signals be sent in-band; it only illustrates that the signals *may* be sent in-band.

FN25. The defendants also contend that ANI or calling number identification data, and DNIS, or called number identification data signals, even in claims which are not in means-plus-function form, refers to in-band signaling only. However, to support this position, the defendants point to the same claim language and passages of the specification that they rely on to support their means-plus-function argument. Thus, the Court will treat these two issues together.

In addition, the defendants point to Column 4, lines 52 through 58 of the '707 patent, which indicates that the interface for receiving ANI may be a Centrum 9000 or an interface which includes tone decoders. The defendants contend that such interfaces could only receive analog in-band signals, not digital or ISDN signals. However, even assuming that this representation about the capacity of these interfaces is true, the types of interfaces provided in the specifications are exemplary only; they do not indicate that the signals can *only* be sent via one of these interfaces or that the signals can *only* be sent in-band.

In Column 4, lines 52 through 58 of the '707 patent, Katz notes that "the interface 20 incorporates

modems, tone decoders, switching mechanisms, DNIS and ANI capability (call data analyzer 20a) along with voice interface capability." It is clear that the tone decoders and the DNIS and ANI capability of the call data analyzer perform the function of providing and receiving signals from the remote terminals and the communication facility. Thus, the Court concludes that the structures that correspond to the "means" are the Interface 20 and the Call Data Analyzer 20a.

The plaintiffs note that Claim 15 of the '150 patent, a process claim, recites the limitation of "receiving said call data signals from said telephonic communication system for a calling remote terminal," which is not written in means-plus-function form. They argue that the language of this claim in no way indicates the type of line on which the call data signals must be received and because it is not a means-plus-function limitation, it is not appropriate to import structure from the specifications. The Court agrees. In the specification of the '150 patent, in Column 4, lines 12-17, Katz discusses the call data referred to in his claims. The only requirement of the call data signals set forth in the specification pertains to the content of the signal: it must convey the called and calling number. There is no requirement in the specifications that the signals be sent in a certain manner or over a certain type of line or connection.

The patents are silent as to whether the call data signals must be transmitted "in-band" or "out-of-band." Thus, the Court concludes that the claims at issue do not require or exclude any particular manner of transmission or type of signaling.

10. "Consumable Participation Key" and "Limits on Use"

[39][40] The parties have presented the terms "consumable participation key" and "limits on use" to the Court for construction. "Consumable participation key" appears in Claim 51 of the '309 patent and reads in context "qualification structure controlled by said record structure for testing caller data signals provided by a respective one of said individual callers to specify a consumable participation key for restricting the extent of access to said system to limit data stored from said respective one of said individual callers on the basis of entitlement." The term also appears in Claim 65 of the '863 patent and *622 reads in context "qualification structure for testing caller data signals provided by at least one of said individual callers to specify a consumable participation key, said consumable participation key for use during a single

predetermined period of time for restricting the extent of access to at least a portion of said system by said one of said individual callers on the basis of entitlement."

The term "limit on use" or "limits on use" appears in Claims 33, 44, and 93 of the '707 patent and Claims 79 and 190 of the '863 patent. Claim 33 of the '707 patent recites in part a "qualification structure controlled by said record structure for testing said calling number identification data to specify a basis for entitlement defining a limit on use, for restricting the extent of access to said system for a respective one of said certain of said individual callers.... An analysis control system according to claim 26, wherein said limit on use relates to a dollar amount." The other claims in which "limits on use" appears are substantively the same; Claim 44 of the '707 is representative and reads "providing products carrying participation numbers specifying limits on use to entitle individual callers to access said operations of the interface with said telephonic communication system."

The parties agree that "consumable participation key" should be defined as a number or word that allows a caller access to a service or part of a service a predefined limited number of times and which cannot be refreshed or recharged. While the ordinary meaning of the claim language gives some indication of the meaning of "consumable participation key," the specification makes it clear. In Column 9, lines 31 through 35 of the '707 patent, the specification provides that "[f]or example, a list may be preserved by a use- rate calculator to implement a consumable key operation. That is, a user is qualified to a specific limited number of uses during a defined interval."

The parties disagree, however, on the meaning of "limits on use." The plaintiffs argue that "limit on use" means "a control imposed on the degree or extent to which callers may avail or utilize a service or one or more operations of a service." (Pls.' App. at 74). The plaintiffs contend that a limit on use can be any one of a range of restrictions including "limits based on the total number of permitted accesses, the time of day for permitted accesses, limits on use based on a dollar value, [and] limits on use based on a predetermined period of time." (Pls.' App. 75-76). The defendants argue that this term has the same meaning as consumable participation key in that it is a control on the number of times a caller may enter a format in the Katz system. The defendants agree that a limit on use can be fixed by a set number of uses or a set dollar amount. However, the defendants argue

that a limit on use does not perform a metering function in that it does not effect the duration of access to a format; consequently, it cannot disconnect a caller during a format for exceeding a set period of use.

The place to begin is the claim language. Claim 33 of the '707 patent provides for a limit on use that relates to a dollar amount. The plaintiffs argue that this Claim clearly shows that limit on use is not restricted to only the number of calls or accesses into the system. Although this claim does not explicitly recite that the limit on use would be a duration of time linked to the set dollar amount, e.g. \$10.00 limit at \$2.00 per minute, it does not explicitly recite that the dollar amount could only be linked to a set number of accesses, e.g. \$10.00 limit at \$2.00 per access.

The defendants argue that the limits on use are used to qualify callers for access to the operations of the interface, which necessarily has to occur before the caller enters into the Katz system. However, claim 44 of the '707 patent provides for a further step of "invalidating on-line said participation numbers after said limits on use specified by said participation numbers are *623 reached." This claim calls out a step of utilizing the limit on use at a later point in the process after the qualification step.

The specification confirms that "limit on use" should not be restricted to set number of accesses to the Katz system. In Column 12, lines 52-57 of the '707 patent, Katz describes how a calling number may be "checked by the use- rate calculator to determine the number of times it has been used in excess of a predetermined number of calls or dollar value to participate in the lottery during a current interval of monitoring." (emphasis added). Similarly, in Column 12, lines 22 through 26 of the '707 patent, Katz describes how a lottery format may use a limit on use and states that "[f]or example, a person might be entitled to play the lottery a limited number of times or to the extent of a limited dollar value during a predetermined interval." (emphasis added).

Contrary to the defendants' assertion, the Court concludes that Katz does not equate all limits on use to consumable participation keys. In Column 9, lines 32 through 35 of the '707 patent, the specification provides that "a list may be preserved by a use-rate calculator to implement a consumable key operation. That is, a user is qualified to a specific limited number of uses during a defined interval." The use of the phrase "limited number of uses," which accurately describes a consumable

participation key, does not indicate that all "limits on use" are consumable participation keys. Thus, it is clear from the claims and specifications that a consumable participation key is only one kind of a limit on use.

There is no indication in the Katz patents of a method of measuring a limit on use based on a dollar value. That is, neither the claims nor the specifications require that the limit on use based on a dollar value be decremented by the number of accesses to the system, ie. \$2.00 for each access. The claims and the specifications leave open the possibility that the dollar amount could be decremented by some other method of measurement, such as time spent in the Katz system; ie. \$2.00 for 10 minutes, such that the limit on use served a metering function.

The statements made by Katz in the prosecution history cited by the defendants do not require a different construction than what is clear from the plain language of the claims and specifications. During the prosecution history of the '707 patent, certain of Katz's pending claims, including pending claim 47, were rejected by the examiner in an office action as unpatentable over two patents and an article of Turbat. (Ex. 51). In an Amendment dated August 31, 1995, Katz amended pending claim 47 by substituting the phrase "one time use" with "limit on use." Katz also argued against the examiner's rejection of his pending claim 47 in a section entitled "Discussion of the Rejections of Claims 32, 37, 40, 41 and 47 under 35 U.S.C. § 103." In that section, Katz distinguishes the rejected claim 47 on the basis that "[a]pplicant's system, as claimed, is independent of both *time* (Barger and DeBruyn) and *value* (Turbat)." However, this discussion was clearly directed toward the rejection of the claim as originally written, which called for "a basis of entitlement defining a one time use," as evidenced by Katz's statement at the end of the discussion section that "[t]he rejected claims are urged to be distinct for the reasons presented above." Based on this review of the prosecution history, the Court concludes that Katz's statements about a claim that read "one time use" do not limit the claims that were eventually accepted, which read "limit on use."

Based on the foregoing the Court concludes that "consumable participation key" means: a number or word that allows a caller access to a service or part of a service a predefined limited number of times and which cannot be refreshed or recharged. The Court concludes that "limit on use" means: a control that limits a caller's access to a service based on some

predetermined method of measuring the *624 level of use. The term "limit on use" is not restricted to a specific method of measuring use, such as a limited number of accesses into the Katz system.

B. CLAIMS INVOLVING PRODUCTS CARRYING PARTICIPATION NUMBERS

Claims Involving Products Carrying Participation Numbers are Claims 44 and 93 of the '707 patent and Claims 79 and 190 of the '863 patent. The text of these claims is set forth in the Appendix.

In general, these claims involve a method for limiting a caller's entitlement to access the functions of the system by requiring the caller to enter a participation number. These participation numbers are carried on products that are in some way provided to the caller prior to the call. The participation number corresponds to data stored in memory in the system which specifies a limit on a caller's access to the system.

1. "Products Carrying Participation Numbers"

[41] The plaintiffs contend that the term "products carrying participation numbers" is straightforward and its meaning may be taken from the ordinary meaning of the words themselves. The defendants argue that the words "product" and "carrying" indicate that the product on which the participation number is carried must have inherent value apart from the number; thus, the defendants argue, "products" cannot include prepaid calling cards.

The term "products" is not used in the Katz patents as a term of art, as the parties agree. Thus, the Court should give the term its plain, ordinary English meaning. The Court concludes that the plain meaning of "products," which denotes an item produced for use in a commercial setting, does not support the construction given to it by the defendants. The plain meaning of the term "product" in the claim language does not connote something of inherent value apart from the number carried with it.

The specification does not contradict the plain meaning of "products." The only place in the specification that discusses products carrying participation numbers is Column 17, lines 13 through 17 of the '707 patent, which reads "[a] key to participation in the game show may involve the purchase of a particular product. For example, a person desiring to participate may purchase a product which carries a concealed key number. The number serves as a caller's key to participation in the game

show." This passage in no way suggests that the product must have value independent of the participation number. The defendants also point to Column 9, lines 35 through 38 of the '707 patent, which discusses restricting callers to the purchasers of a medical apparatus. This discussion is given by way of example only and does not indicate that all "products" must have inherent value apart from the participation numbers.

The defendants rely on statements made by Katz during the prosecution of the '707 patent. In the August 31, 1995 Amendment, Katz distinguished the '275 patent to Kamil by stating that "Kamil discloses a telephone system enabling prepayment for telephone calls, wherein special code and credit information is stored in memory in special exchanges and debited as the call progresses" and that Kamil "does not disclose specific limitation recitations including consumable key operation, nor does it disclose providing a product bearing a participation number specifying a limit on use." (Ex. 51). The defendants argue that Katz clearly stated that his invention was distinct from Kamil because Kamil used prepaid tickets which do not have inherent value, and thus, are not "products."

The Court concludes that Katz did not unambiguously state that his invention required products with inherent value apart from the participation number; it is possible, *625 for example, that Katz's distinction was based on the fact that Kamil's special code connected with the prepayment for telephone calls did not specify a limit on use. Katz did not mention Kamil's use of a prepaid ticket as a method of recording the prepayment in his statements so it is not clear that Katz was using the concept of a prepaid ticket as the basis for his distinction. In addition, these statements were made by Katz in a voluntary amendment, not in an effort to change the examiner's decision on a rejected claim. Thus, the Court concludes that Katz's statements do not indicate a clear disavowal of coverage so as to require that "products" have inherent value apart from the participation numbers. *See York Products*, 99 F.3d at 1575.

Based on the foregoing, the Court concludes that "products carrying participation numbers" means: a physical item sold or exchanged in a commercial setting which carries a number allowing participation in the Katz system.

2. "Accounting data"

[42] The second term from the Claims Involving Products Carrying Participation Numbers that the parties have presented to the Court for construction is "accounting data." This term appears in Claim 44 of the '707 patent, which includes the step of "providing on-going accounting data to said individual callers at intervals during calls from said individual callers."

The plaintiffs argue that "accounting data" should be construed according to its ordinary, common meaning, which is information relating to a reckoning or a computation. (Pls.' App. 83-84). The defendants argue that "accounting data" means callers' scores in the television game show format because that is the only format in the specifications in which Katz discusses accounting data.

The claim language does not support the construction proposed by the defendants. Nothing in Claim 44 indicates that "accounting data" should be limited to only callers' scores in a television game show format. In addition, Claim 45 of the '707, which is dependant on claim 44, provides for the step of "accounting for said limits on use for said participation numbers for said individual callers by incrementing or decrementing on-line said cumulative use for said individual callers to said limits on use." In this claim, the concept of accounting connotes keeping a record of the usage of the Katz system according to set limits on use associated with a caller's participation number; the language of this claim in no way limits the concept of accounting to scores in a game show.

The defendants contend that Column 16, lines 44-53 of the '707 patent is the only place that Katz describes "accounting data." In that passage of the specification, Katz discusses a television game show format and states that:

The participant data is stored in an assigned cell of the memory 98 (FIG.4) for the caller and as the game proceeds, the processing unit 92 tallies the caller's score. Scores are interrelated between individual processing units to actuate the terminal CT. Thus, individual accounting occurs for each of the calling participants on an on-line basis dependant upon the success of the studio players and their association with the callers. On-going accounting data may be provided at intervals or real time by the recorded voice to each contestant. However, in Column 17, lines 44 through 48 of the '707 patent, the specifications reads "the table 99 may be a large, shared unit that tabulates each of the key numbers and accounts for their use. If the caller has identified a proper key number, the process proceeds and the key number is accounted, i.e. incremented or

decremented to the limit of use if any." Contrary to the defendants assertion, Katz discusses accounting in this passage of the specification in a context other than a television game show format. This passage of the specification is consistent with the language *626 of Claim 45, which adds the step of "accounting for said limits on use for said participation numbers," and indicates that "accounting data" may relate to the limits on use specified in the participation numbers or consumable key numbers, and not only callers' scores in a game show. Further, even if the only example of "accounting data" in the specification were in the television game show context, the Court finds no reason in the claim language to restrict the term to a disclosed embodiment in the specification. *See Johnson Worldwide*, 175 F.3d 985, 989.

The defendants argue that the prosecution history of the '707 patent supports their construction of "accounting data." In a Supplemental Amendment dated December 28, 1994 during the prosecution of the '707 patent, Katz added Claim 53, which eventually became Claim 37 (upon which Claim 44 depends). In his remarks, Katz stated that "[s]upport for the 'accounting' distinction may be found, for example, at page 34, lines 11-21 of the present specification," which corresponds to the passage in the specifications upon which the defendants rely. The Court concludes that this statement by Katz in no way limits the term "accounting data" to only callers' scores during a television game show format, as evidenced by his use of the phrase "for example."

The claim language and the specification makes it clear that a caller's score in a television game show format is accounting data, but it only one example of accounting data, not the term's definition. Based on the foregoing, the Court construes the term "accounting data" in accordance with its ordinary, common meaning to mean: information relating to a computation of data.

3. "Operations of the Interface"

[43] The third term from the Claims Involving Products Carrying Participation Numbers the parties have presented to the Court for construction is "operations of the interface." This term appears in the preamble of Claims 44 and 93 of the '707 patent and Claims 79 and 190 of the '863. The language containing this term varies slightly in the claims, but generally provides for "[a] process for controlling operations of an interface with a telephonic communication system." The term "operations of the interface" as it appears in the preamble is also referred to in the limitations of the claims, such as "to

access said operations of the interface."

The defendants argue that "operations of the interface" is synonymous with "format." The plaintiffs contend that the term should be construed as "the set of processes or actions that effectuates interactive connection and that is part of the work performed by the system connected to the telephone network." (Pls.' App. at 68).

The claim language does not support the defendants' limited construction of this term. In the second limitation of Claim 37, upon which Claim 44 depends, the claim includes the step of "receiving said call data signals ... to select a specific operating format from a plurality of operating formats of said operations of the interface." This claim recites both the terms "format" and "operations of the interface." The use of both terms separately in the same claim indicates that they have different meanings. In addition, the claim refers to selecting one of a plurality of operating formats of the operations of the interface, which shows that the operations of the interface includes more than one format. Further, the term "format" is not present in Claims 93 of the '707 patent or Claim 190 of the '863 patent, which indicates that the operations of the interface do not necessarily include a format.

The term "operations of an interface" is not discussed in the specification. The defendants point out that in Column 10, lines 32, 39, and 43, Katz refers interchangeably to "mail order operating format" and "mail order interface." From this portion of the specification, however, the Court cannot conclude that the operations *627 of the interface can only include a format.

The Court concludes that there is no reason in the claim language or specifications to depart from the ordinary, common meaning of "operations of the interface." Based on the foregoing and consistent with the Court's construction of "interface structure," the Court concludes that the term "operations of an interface" means: the processes, activities, or functions of the interactive connection between the processors upon which the Katz system is running, the communication facility, and the callers. The term does not require that the Katz system be running a format, or specifically, one of the seven formats disclosed in the specifications.

4. "Answer Data"

[44] "Answer data" is the fourth term the parties have presented to the Court for construction from the

Claims Involving Products Carrying Participation Numbers. The term appears in Claims 44 and 96 of the '707 patent and Claims 79 and 190 of the '863 patent. The language of the limitations in which "answer data" appears is almost identical in each patent and reads "receiving digital identification data from said individual callers responsive to said voice signals including said participation numbers for said individual callers and answer data developed by said remote terminals under control of said individual callers."

The parties agree that the clear meaning of "answer data" is responses by callers to vocal questions or prompts. The defendants ask this Court to exclude any response that includes a telephone number, and specifically the telephone number of the party the caller would like to reach, from the definition of "answer data."

The defendants argue that the specifications describe callers providing answers to questions only in the context of one of the Katz formats, and because making a telephone call is not a format, a telephone number cannot be included in the definition of "answer data." See Column 7, lines 46 and 59; Column 17, line 8; Column 19, line 17 of the '707 patent. Even taking the defendants characterization of these passages of the specification as true, the Court has already rejected the defendants' narrow definition of the term "format" in the context of these patents. Further, there is nothing in the passages of the specifications cited by the defendants that indicates that answer data could not include any telephone number, including the number the caller is trying to reach.

The Court concludes that there is nothing in the claim language or specification that restricts the ordinary, common meaning of the term "answer data," which denotes data containing answers or responses. The defendants argue that "answer data" cannot encompass all answers to questions because the claims refer to some types of answers with specific terms, such as participation numbers. Although the claims recite different terms to refer to some specific responses received from the callers, the use of these more specific terms does not indicate that the broad term "answer data" cannot encompass these responses as well.

The prosecution history cited by the defendants does not support their construction of "answer data" nor does it limit the ordinary, plain meaning of the term as expressed in the claims. The defendants argue that Katz distinguished his inventions from a patent

to Newkirk, which involved a system that enabled callers to make calls at pay telephones using a magnetic stripe on a card. In the prosecution history of the '968 patent in a Supplemental Amendment dated May 4, 1988, Katz stated that:

The Newkirk et al. patent (4,439,636) is directed to a system for enabling a magnetic stripe card to be used at a pay telephone somewhat independently of the composite telephone system. Although the Newkirk patent discloses digital communication between a remote *628 terminal and central terminal, the communication essentially involves the magstripe of a credit card. Distinct from applicant's development, Newkirk does not contemplate any operations related to statistical analysis. Specifically, with respect to the claims herein, while the Newkirk patent utilizes a calendar clock and form records for purposes of billing, the system does not store any form of "answer data." (Ex. 33). The defendants contend that Katz's statements indicate that a telephone number could not be answer data. The Court concludes that Katz's statement that the Newkirk system did not store any form of answer data does not limit the term "answer data" to exclude responses that include telephone numbers. Katz stated that the only communication between a remote terminal and a central terminal was through the magnetic stripe; such a magnetic stripe would not have constituted "answer data" as this Court concludes that term is used in the Katz patents.

Although not addressed by Katz in his statements regarding Newkirk, the defendants argue that the Newkirk patent provided for callers to be "prompted" by a dial tone to enter the telephone number they were trying to reach. Thus, the defendants argue, Newkirk involved callers' responses to prompts and Katz statement that Newkirk did not include answer data indicates that Katz was disclaiming responses involving telephone numbers from the scope of the term. The Court is not persuaded by this argument for two reasons. First, Katz did not mention that Newkirk prompted callers with a dial tone in his discussion of the Newkirk patent; thus, the Court will not limit Katz's claims by a statement that he did not make during the prosecution of the patents. Second, the patents make clear that the questions or prompt must be vocal or voice generated. [FN26] Thus, the dial tone used in Newkirk is not a "prompt" or "cue" as used in the Katz patents.

FN26. Claim 44 provides support for the notion that the questions or prompts are vocal in nature. The third limitation in Claim 37, upon which Claim 44 depends,

provides for "coupling said remote terminals to said interface for providing voice signals to said individual callers and generating said voice signals for actuating said remote terminals as to provide vocal operating instructions to specific ones of said individual callers." The specification also supports the idea that answer data is responses to vocal questions or prompts. See Column 7, lines 46 through 53 of the '707 patent.

During the prosecution of the '846 application, Katz distinguished his patent from a patent to DeBruyn. (Ex. 66). In an Amendment dated July 7, 1997, Katz stated:

DeBruyn is silent as to the fourth and fifth steps of claim 31. These steps provide: "cueing callers with selected questions from a batch of questions;" and "receiving answer data ... responsive to the selected questions." DeBruyn prompts callers for simple and fixed input: a phone number and a Lotto number, which can be confirmed and corrected in linear fashion. There is no suggestion or disclosure of selected "questions from a batch of questions." DeBruyn does not contemplate a selection of the same or different questions for different callers, from a batch of questions. DeBruyn, by its silence, can not imply cueing callers with those questions, nor receiving answer data in response to those questions.

It is clear that in these statements, Katz was distinguishing his patent from DeBruyn on the basis that DeBruyn did not select questions from a batch of questions or receive answers to those questions from a batch of questions. These statements clearly do not indicate that answer data cannot include any telephone number, including the number the caller is trying to reach.

Based on the foregoing, the Court concludes the term "answer data" to mean: responses from callers to vocal questions or prompts.

***629 C. CONDITIONAL FORMAT CLAIMS**

The Conditional Format Claims include Claim 15 of the '150 patent and Claims 17, 20, 24, and 77 of the '285 patent. In general, the '150 and '285 patents describe a system and a method for interfacing callers with a processing system which can handle multiple callers and run multiple formats. The '285 patent also includes the option of interfacing callers with a live operator who receives prompts from the processing system. Certain of the formats of the

processing system may contain conditions which restrict access to their use by callers; these conditions are stored in memory in the processing system in connection with the corresponding format. Call data, including the called number, the calling number, and the equipment signals, is used by the processing system to select the format the caller wishes to access and to restrict access to formats according to any associated conditions.

Claim 15 of the '150 patent and Claim 17, 20, and 24 of the '285 patent are method claims; Claim 77 of the '285 patent is an apparatus claim. The method claims are very similar and all contain at least four basic steps, including receiving call data signals, selecting a format under control of the call data signals, testing the selected format in relation to the call data signals, and conditionally interfacing said selected format with the calling terminal. The text of these claims is set forth in the Appendix.

The parties' arguments regarding the proper construction of the testing step and the sequence in which the four basic steps in the method claims must be performed are intertwined. The plaintiffs argue that the "testing the selected format step" includes the test referred to in the specification as the "validity bit check," which tests the ANI of the caller against a negative list of "bad" ANIs stored in memory. Under this construction, because the validity bit check may be performed before the selecting step, the testing step could be performed before the format is chosen in the selecting step. The defendants argue that the validity bit check is not encompassed by the testing step, but rather is separately called out in Claim 24 of the '285 patent; thus, as is clear from the claim language, the steps must be performed in the sequence in which they are listed in the claims. The proper construction of the testing step will be addressed first.

1. "Testing the Selected Format"

[45] The first term the parties presented to the Court for construction from the Conditional Format Claims is "testing the selected format." This term appears in all four of the method claims, and reads in context "testing the selected format in relation to said call data signals." Although the claim language is unclear as to whether the test is performed *on* the format or *for* the format, the parties agree that "testing the selected format" means the step of performing a test based on conditions associated with a format before a caller is allowed to interact with a format.

The disagreement surrounds the scope of the testing step. In addition to the argument over whether the validity bit check is encompassed by the testing step, the parties disagree over whether the test must include the use of a control word or control data and whether the test that is performed must be specific to each format or if formats may be conditioned as a group. The defendants contend that the step of "testing" must involve the use of, or "fetching" of, a "control word" to identify the conditions associated with the selected format. The plaintiffs contend that the step of testing does not necessarily include fetching a control word associated with the selected format and that Katz disclosed other types of testing in the specifications that perform this step of the claims. The plaintiffs contend that a test may apply to groups or categories of formats, or to all of the formats. The defendants contend that the testing step cannot *630 perform the function of excluding a caller from accessing any formats at all but rather, the testing step determines whether conditions specific to the selected format are satisfied.

The claim language of the testing step is helpful, but not conclusive. The language of the claims does not clearly indicate what the step of testing the selected format involves. The Conditional Format Claims recite "testing the selected format," which indicates that the test is performed on one particular format that has in some way been selected. The claim language does not indicate whether or not the same test could be given to a group of formats or if all formats could be tested for a single caller at the same time. Claims 11, 12 and 13 of the '150 patent, which like Claim 15 depend on Claim 10, add the steps of "fetching control data addressable with said call data for use in the step of testing," "composing a control word defining conditions for interfacing," and "fetching data to specify time constraint conditions." These claims specifically call out the steps of composing a control word and fetching control data, which suggests, consistent with the concept of claim differentiation, that the concept of control data is not necessarily implicit in the testing step of independent Claim 10. The claim language does not preclude the possibility that testing other than based on a control word could be encompassed in the testing step. Thus, the analysis must proceed to the respective specifications.

The specifications of the patents describe three main types of testing that are performed on calls. The first type of testing is performed using a control word or control data, which is available for each format and imposes any conditions on accessing the format. See Column 5, lines 21 though 25 of the '150 patent.

Column 6 lines 54 through 57 of the '285 patent provides that "a control word is available for each operating format of the processor P and is utilized to impose the conditions for an interface and the terms of any associated billing." Similarly, in Column 9, lines 3 through 7, the specification provides "each of the operating formats has a control word for defining any access conditions or limitations to accomplish a specific format." Katz explains that the control words are bits in the control register which indicate the presence and content of conditions associated with a format. See Column 9, lines 27 through 37 of the '285 patent. For example, Katz describes test conditions based on the time of the call, the calling history of the caller, and the demographics of the caller. See Column 9, line 37 through Column 10, line 9 of the '285 patent.

The specification also discusses testing or conditioning calls as a group. For example, the specification provides "the [historical] record might take the form of either a negative or a positive file (for an individual format). In that regard, formats involving 'pay to dial' calls might be conditioned as a group." Column 5, line 64 through Column 6, line 2 of the '150 patent. Katz also describes "decimal equivalent coding" as a way to condition formats as a group. Katz states that all formats of a particular type may be assigned in a "decimal series," such that all lotteries would be assigned a number in a "100" series, e.g., 101, 102, 103, etc. For example, a caller's ANI may be associated with a decimal series which would exclude that caller from participation in any formats in that decimal series. See Column 10, lines 27 through 30 of the '285 patent. The specification provides that decimal equivalent coding "enable[s] a substantial number of formats to be designated and coded with respect to various classifications." Column 8, lines 5 through 17 of the '150 patent; Column 10, lines 10 through 30 of the '285 patent.

Katz also discussed what he refers to as the validity bit check. The validity bit check compares the ANI, or calling number, of the caller to a list of ANIs that are stored in memory. If it is a negative list and the caller's ANI appears on the list, *631 the caller will be denied access to the Katz system regardless of the format. If it is a positive list, the caller's ANI must appear on the stored list in order to access the Katz system regardless of the format. See Column 4, line 60 through Column 5, line 5 of the '150 patent. It is also possible that the calling equipment may appear on a stored list which determines a caller's access to any of the formats. See Column 5, lines 1 through 14 of '150 patent.

It appears both sides agree that Claim 24 of the '285 patent corresponds to the validity bit check described in the specification. The claim provides for "storing a record of negative file data, said select processing format using said additional call data signals to access said record and obtain data to specify and test for negative file conditions." The defendants say that Claim 24 does not alter the testing step of the independent claim; rather, the defendants argue it is an additional step that occurs before the testing step.

The Court concludes that, based on the claim language and the specifications, the testing step does not encompass testing formats as a group, such as through the decimal equivalent coding or the validity bit check disclosed in the specifications. The clear language of the claim recites testing "*the selected*" format. According to the specification, decimal equivalent coding is performed on a group of formats at one time and does not operate on the format that is selected by the call data signals. Thus, the Court invokes the legal rule that the specification may not expand the clear meaning of the claim language. As well, the specification shows that the validity bit check is based on the ANI or equipment signal of the caller and is not associated with any conditions placed on a selected format. Based on the foregoing, the Court concludes that "testing the selected format" means: the method by which it is determined whether any conditions associated with the format that has been selected by the call data signals are satisfied.

2. The Sequence of Steps in the Method Claims

The parties disagree over the sequence in which the four basic steps in the method claims, i.e., receiving call data signals, selecting a format, testing the selected format, and conditionally interfacing, must be performed. Specifically, the disagreement centers around the sequence of the selecting and testing steps. The defendants contend that there is a presumption that the steps in a method claim must be performed in the order they are listed in the claim particularly where, as here, the claim language indicates that the testing step must follow the selecting step. The plaintiffs contend that in some embodiments of the invention the testing step could be performed before the selecting step, particularly a situation where a group of formats are being tested, such as the validity bit check.

[46][47] Where the plain meaning of the claim language indicates a sequential nature to the claim steps and the specification does not suggest

otherwise, the steps must be performed in the order written in the claim. See *Mantech Environmental Corporation v. Hudson Environmental Services, Inc.*, 152 F.3d 1368, 1376 (Fed.Cir.1998). The testing step provides for "testing the selected format," which suggests that the format must be selected before this step can occur. While the specification does indicate that the validity bit check and other testing of formats as a group may occur before the selection of the format, the Court has already concluded that the validity bit check and other group testing is not encompassed by the testing step. Given the clear language and the suggested sequence of the steps provided in the claims, the Court concludes that: the testing step must be performed after the selecting step.

There is also some disagreement over the sequence in which the additional steps other than the four basic steps should be performed in the method claims. Claim 11 *632 calls out the additional step of "fetching control data addressable with said call data for use in the step of testing." Claims 15 calls out the additional step of "fetching data to specify demographic conditions." Thus, the Court concludes that it is clear from this claim language and the passages of the specifications discussed above regarding control words that: the steps of fetching in Claim 11 and Claim 15 must occur before the testing step.

Claim 20 of the '285 patent contains the additional steps of "selectively terminating certain select calls from said remote terminals in favor of said operator attended terminals" [FN27] and "transferring substantially all of said certain select calls from said operator attended terminals back to said multiple port, multiple format data processing system." The defendants argue that these steps must be performed after the four basic steps that appear before them in the claim.

FN27. Claim 24 of the '285 also contains the step of selectively terminating certain select calls.

Claim 24 of the '285 patent includes the steps, in addition to the four basic steps, of "providing signal-represented call data from said remote terminals including calling numbers as additional call data signals" "storing a record of negative file data, said select processing format using said additional call data signals to access said record and obtain data to specify and test for negative file conditions," and

"terminating calls from said remote terminals if said calling number matches said data obtained from said negative file data." The defendants argue that the selectively terminating step must be performed after the four basic steps and the providing step, the storing step, and the terminating step must be performed before the four basic steps are performed.

As for the additional steps in Claims 20 and 24 of the '285 patent, the defendants do not point to any passages of the specification that demonstrate that the additional steps in those claims must be performed in any particular order. There is nothing in the claim language that suggests that those steps must be performed before, after, or during the four basic steps called out in the claims. Interpreting the plain claim language, there is no reason why calls could not be transferred to a live operator or transferred back to the system at any time during a call. Similarly, there is no reason shown in the claim language why a call could not be terminated at any time if the calling number matched negative file data. Thus, the Court concludes that: the claims do not require that the additional steps of Claims 20 and 24 be performed in any particular order.

3. "Call Data Signals"

[48] The term "call data signals" which appears in the "testing the selected format" limitations also raises construction issues for the Court. In Claim 15 of the '150 patent and Claim 17 of the '285 patent, the term "call data signals" appears in the preamble and reads "call data signals, as to indicate called and calling numbers." In Claims 20 and 24 of the '285, the term "call data signals" is not limited in the preamble or elsewhere in the claim to called and calling numbers. The parties agree that in those claims, "call data signals" refers to called numbers, calling numbers, and equipment signals. See Column 4, lines 53 through 58 and 65 through 68 of the '285 patent.

The parties dispute the meaning of the term "equipment signals." Specifically, the defendants contend that "equipment signals" is limited to the signal disclosed in the specification, which is a signal that indicates whether the caller is using a touch tone telephone or a rotary dial telephone. Column 3 lines 65 through 68 of the '150 provides that "the call data may specifically include digital signals representative of the called number, the calling number (terminal number) and the terminal equipment." Column 4, lines 10 through 28 of the '150 patent provides that call data may be provided by the communication *633 facility for the called number, the calling

number, and "equipment, e.g. *[exempli gratia]* 'pulse' or 'tone' terminal." These passages of the specification do not require that the equipment signal only indicate whether the caller is calling from a pulse or tone terminal.

Column 11, lines 28 through 36 of the '285 patent provides that "[t]he bits '29' and '30' comprise a field 83 and may actuate a special form of the selected format. In the disclosed embodiment, the field 83 registers call data, as to indicate that the calling terminal is a 'pulse' (rotary dial) signal unit or a 'tone' (touch) signal unit." Field 83 in Figure 5 is labeled "equip." The plaintiffs argue that by dedicating two bits in memory for the equipment signal, Katz indicated that equipment signals may encompass more than touch tone or rotary, because only one bit would have been required to store that information. In light of the specification and Figure 5, the Court concludes that "equipment signal" is not limited to a signal indicating whether the caller is using a touch tone or rotary phone and means: a signal that provides information about the equipment from which the caller is making a call.

Another dispute the parties raised in connection with the term "call data signals" is which call data signals may be the basis for a test in the testing step. The defendants argue that the only call data signal that can be tested in the testing step is DNI. The defendants argue that the equipment signal cannot be tested because equipment signals for touch tone or rotary phones did not exist at the time of the Katz patents. Putting aside whether an equipment signal that indicated rotary or touch tone phones existed at the time of the Katz patents, the specification clearly indicates that the equipment signal may be the basis for disqualifying callers from interfacing with a format. See Column 5, lines 1 through 4 of the '150 patent. The claims language of the testing step is "testing the selected format in relation to said call data signals." Although Claim 15 of the '150 patent and Claim 17 of the '285 patent do not include equipment signals from the scope of call data signals in the preamble, there is no basis in the claim language or the specifications to conclude that the call data signals in the testing steps in Claim 20 and 24 of the '285 cannot include the equipment signal.

The defendants also argue that ANI cannot be included in the call data signals of the testing step because Katz disclaimed coverage for testing ANI in the prosecution history. The specifications clearly indicate that a caller's ANI may be used to disqualify him from interfacing with a format. See Column 4, lines 61 through 68 of the '150 patent. In the June

23, 1993 Supplemental Preliminary Amendment during the prosecution of the '285 patent, Katz distinguished his invention from a patent to Fisher by stating that "the patent to Fisher does not disclose receiving calls from random or unknown callers at large and limiting access upon testing *imposed conditions specified by call data including DNIS* from unknown callers." (Ex. 50) (emphasis in original). Contrary to the defendants' assertions, the Court concludes that Katz's statement, "call data including DNIS," is not exclusionary or limiting language and does not exclude ANI from the term "call data signals" in the testing step. Thus, the Court concludes that: the call data signals in the testing step may include the calling number or ANI.

4. "Conditionally Interfacing"

[49] The parties also dispute the meaning of the term "conditionally interfacing the selected format." The parties agree that if the testing step is satisfied, that is, the test is performed and the conditions are fulfilled, then the caller is connected to the selected format. The defendants contend that if the conditions associated with the format are not satisfied in the testing step, the caller is not connected to the format. The plaintiffs contend that the *634 claims are silent as to what happens if the tested conditions are not satisfied.

The term "conditional interfacing" in the context of the Katz patents connotes that the caller will be connected or interfaced with the selected format if any conditions associated with that format are satisfied. The term in itself does not connote what happens to the call if the format conditions are not satisfied, other than the call will not be interfaced with the format.

The specification provides that after the tests have been performed, "[i]f the call is accepted, the process moves to initiate the selected format interface as indicated by the block 40. Conversely, if the call is to be rejected, the process moves to the step indicated by block 32, i.e. reject the call as with a message and release the line." Column 6, lines 34 through 41 of the '150 patent; Column 8, lines 4 through 6 of the '285 patent (identical provision). Figure 2 of the '285 and '150 patents, which are flow diagrams illustrating the operating process of the system, indicate that if the tests are not correlated, i.e. the conditions are not met ("No" at 48), the call flows in the direction of the arrow to 32, and the caller receives a reject message (32) and the line is released (34).

The specifications indicate that one possible result from a call in which the conditions associated with the selected format are not satisfied is that the call will be rejected and the line released. However, there is nothing in the specifications or the claim language that requires a call to follow the disclosed embodiment in Figure 2 and the specifications reciting the embodied result of rejecting the call and releasing the line. Further, the term "conditionally interfacing" does not in itself raise the question as to what happens to the call if the conditions are not satisfied other than that the call is not interfaced with a format, and there is no other language in the claims that otherwise restricts what happens to a call if the conditions of a format are not satisfied. The Court will not import the limitation on the claim language proposed by the defendants from the specification because there is no "hook" in the claim language on which such a limitation can hang. See Renishaw PLC v. Marposs Societa' per Azioni, 158 F.3d 1243, 1248, 1252 (Fed.Cir.1998). Thus, the Court concludes that the claims does not require that the call be terminated if the conditions are not satisfied and the call is not interfaced.

Based on the foregoing, the Court construes the term "conditionally interfacing" to mean: connecting a call to the selected format once any conditions associated with that format have been satisfied.

5. "Live Operator Attended Terminals"

[50] The dispute surrounding the term "live operator attended terminals" centers on whether the prompts provided to the live operators must be identical to the vocal prompts in the automated formats. The plaintiffs contend that the prompts need only assist the operator with the call; the defendants contend that the prompts must simulate the automated format completely.

The claim language does not restrict the prompts displayed to live operator attended terminals in any way. The language of most of the claims at issue from the '285 patent calls out "a plurality of live operator attended terminals." Claim 17 of the '285 patent merely refers to "one of a plurality of operator stations with prompting capability."

As well, the specification does not indicate that the prompts to the live operator must mimic the automated formats. In Column 3, lines 20 through 24 of the '285 patent, the specification indicates that the processor provides formats to automate an interface or prompt a live operator at an operator station. In Column 5, lines 25 through 27 of the '285

patent, the specification provides that the operator station upon receiving a call receives and displays prompting format data for the attending *635 operator. Similarly, Column 6, lines 10 through 14 of the '285 patent indicates that when a caller is coupled to an operator station, the appropriate format data is transferred to the station for prompting the operator.

The Court concludes that: there is no indication in the claim language or the specification that the prompts displayed at the operating stations must be identical to the vocal prompts used in the automated formats. Thus, the Court concludes that: the Claims at issue are not restricted in that way.

6. "Selecting a Processing Format"

[51] The dispute surrounding this limitation is over which data signals control the selection of the format. As discussed above, in Claim 15 of the '150 patent and Claim 17 of the '285 patent, the limitation which reads "selecting a processing format of said multiple port, multiple format processing system for the calling remote terminal under control of said data signals as the selected format" indicates that the format is selected by the called and calling number, because "said" data signals are listed in the preamble of the claim as the called and calling number. However, in Claims 20 and 24 of the '285 patent, the data signals are not limited in the preamble of the claim; thus call data signals refers to the calling number, the called number, and the equipment signal.

The parties appear to agree that, despite the claim language "data signals," the only call data signal that selects the format is DNIS, or the called number. The specifications support this position. See Column 4 lines 30-31 of the '285 patent ("[T]he call unit CU might be reached by any of twenty telephone dialing numbers, each associated with a specific operating format of the processor P. One called number or set of numbers might be associated with an auction format of the processor P."); Column 5, lines 18 through 24 of the '150 patent ("If a positive validity bit ('1') is formed at the junction of the query block 30, a control word is fetched under command of the called number as indicated by the block 36."); Column 7, lines 13 through 19 of the '150 patent ("The control register 70 receives format control words specified by the called number and having a form as illustrated in Fig. 4."). The Court agrees that despite the use of the broad term "call data signals" in the claim language, it is clear in the context of the patent as a whole that the only call signal that could be used to select a format is the called number or DNIS.

7. "Demographic Conditions"

[52] Claim 15 of the '150 patent recites "[a] process according to claim 11 wherein said step of fetching control data includes fetching data to specify demographic conditions." The parties disagree over the construction of the term "demographic conditions." The plaintiffs argue that "demographic conditions" refers to conditions based on the geographic location of the caller. The defendants contend that "demographic conditions" pertain only to the area code of the caller.

It is clear from the specification that the term "demographic conditions" does not have its ordinary and common meaning in the context of the Katz patents, as both parties agree. In the context of discussing various tests or conditions that may be imposed, the specification provides that "[m]oving from the historic considerations, demographic tests may be specified as in relation to the geographic area manifest by the area code of the calling number." Column 6, lines 24 through 27 of the '150 patent. *See also* Column 12, lines 19 through 25 of the '150 patent. Katz lists several examples of "demographic conditions" in Column 7, lines 61 through 68 of the '150 patent. While all of the examples are conditions limiting calls based on a particular area code, one of the examples is a condition that limits calls to ANIs from a particular area code with particular prefix numerals.

*636 The Court concludes that although the specification discusses demographic conditions in terms the area codes of the calling numbers, there is nothing in the specification that indicates that an area code can be the *only* basis for a demographic condition. Indeed, in one of the examples provided in the specification by Katz, the callers' area codes are used in conjunction with the prefix numerals of the calling numbers to indicate the callers' geographic area and limit the calls from a particular area. This convinces the Court that "demographic conditions" are not restricted to conditions based on the callers' area codes only. Thus, the Court construes the term "demographic conditions" to mean: conditions used to limit a call based on the caller's geographic area.

8. "Means for Directly Forwarding"

[53] Claim 77 of the '285 is an apparatus claim and contains a limitation which reads "means for directly forwarding a call coupled to said interface means for forwarding a call from any one of said remote terminals to one of said plurality of live operator

attended terminals under control of said call data signals when said remote terminals do not have the capability to digitally provide data."

The parties agree that this limitation is subject to means plus function analysis under § 112, ¶ 6. The function performed by the "means" is directly forwarding a call from a remote terminal to a live operator attended terminal. The defendants argue that although there is no structure that is clearly linked in the specifications to the function disclosed in the claims, this Court should identify the switch SW, line capture unit 62, call register 68, and the control unit 66 from Figures 1 and 3 of the '285 patent as the structures that correspond to the means.

Figure 3 illustrates elements of the switch SW in Figure 1. See Column 8, lines 32 through 34 of the '285 patent. Column 8, lines 50 through 57 of the '285 patent describes some of the elements of Figure 3 and provides that "[t]he line capture unit 62 also is connected to a control unit 66. Structurally, the control unit 66 may take the form of various computer facilities incorporating memory and logic capability to sequence and control specific functions.... Generally the control unit 66 implements specific formats which may involve coupling a caller either to a live operator station OS1-OSn or to the processor P." Column 12, lines 55 through 59 of the '285 patent indicates that "[i]f the call register 68 does not receive a validity '1' bit, the calling number is indicated to be barred with a consequence that the line is released by the control unit 66."

The Court concludes that based on the specifications, the structure that corresponds to the means is generally the switch SW in Figure 1 and specifically the control unit 66 in Figure 3. Based on the their descriptions in the specifications, the Court concludes that the other structures identified by the defendants, the line capture unit 62 and the call register 68, do not perform the function of directly forwarding a call from a remote terminal to a live operator attended terminal recited in the claim.

The defendants argue that because the claim also requires that the forwarding occur "when said remote terminals do not have the capability to digitally provide data," it does not apply in a situation in which a caller with a touch tone telephone fails or chooses not to push a button on the telephone. The Court concludes that in light of the ordinary and common meaning of the term "capability," this claim means that: a caller is switched to a live operator only when the remote terminal from which the caller

is calling is not technically capable of digitally providing data.

D. CLAIMS FROM THE '984 PATENT

The parties have presented Claims 4 and 15 of the '984 patent to the Court for *637 construction. The text of these claims appears in full in the Appendix.

In general, the '984 patent describes a system for use with a telephone network that controls callers' access to interactive voice applications to prevent misuse. The system can restrict callers' access to interactive voice applications by qualifying calls in different modes, such as "800" mode, "900" mode, or area code mode.

1. Claim 4

a. "First Response Unit Means"

[54] The first term presented by the parties to the Court for construction from the '984 patent is "first response unit means." The term in context reads "first response unit means for receiving calls in said '800' call mode." The plaintiffs argue that this term is not subject to means-plus-function analysis, despite the use of the word "means."

The Court concludes that "first response unit means" is not subject to means plus function analysis, despite the presumption to the contrary due to the word "means." The article presented by the plaintiffs, entitled "AT & T 2: Reaches Agreement with Rockwell" and dated August 26, 1986, discusses the use of audio response units in merging computer speech technology with automatic call distribution systems. (Ex. 362). The Court concludes that this article demonstrates that the term "audio response unit" or "ARU" was used by people in the art of computer telephony and would have connoted sufficient structure to those of ordinary skill in the art at the time. See Greenberg v. Ethicon Endo-Surgery, Inc., 91 F.3d 1580, 1583 (Fed.Cir.1996).

The parties also dispute the meaning of the term "800 call mode" which appears in the same limitation. The plaintiffs contend that this term encompasses "800," "888," and other "toll-free" calls. The defendants agree with this construction, but argue that the term encompasses any call in which the charges are reversed and the call is free to the caller, including foreign access calls and "collect" calls.

Column 1, line 66 through Column 2, line 2 of the '984 patent provides that "[t]elephone calls may be

accommodated without charge using '800' service or calling mode. Generally, the '800' calling mode accommodates free calls by callers in various areas to a particular station incurring the charges." The Court concludes that it is not proper to determine at the construction stage whether "foreign access calls" and the like are specifically encompassed in the term "800 call mode." The Court agrees with the parties that the proper construction of "800 call mode" is: a toll-free call, ie. a call in which the caller is not charged for the call, such as an "800" or "888" call and the like.

b. "Qualification Means"

[55] The term "qualification means" appears in context as "qualification means for qualifying said calls in said '800' call mode received by said first response unit to provide qualified calls." The parties agree that this term is subject to means-plus-function analysis under § 112, ¶ 6.

Column 4 lines 9 through 14 of the '984 patent provide that "with overall supervision by the control unit 28, the audio response units, 18, 20, and 22 answer and preliminarily qualify callers from the terminals T1-TN for connection through the coupler 24 to the interface processor 26." Column 4, lines 47 through 50 provide that "[t]he audio response unit 18 is coupled to a free-call memory 32." Generally, the unit 18 in cooperation with the memory 32 operates with the control unit 28 to qualify acceptable calls in the '800' mode."

The Court concludes that "qualification means" is subject to means-plus- function analysis. The Court concludes that the structures which correspond to the means and perform the function of qualifying said calls in '800' call mode are the audio response unit 18, control unit 28, and the free-call memory 32 in Figure 1 and the *638 required software to perform the function of qualifying callers.

c. "Second Response Unit Means for Receiving Calls in a Second Call Mode"

[56] The third limitation in Claim 1 of the '984 patent, upon which Claim 4 depends, provides for a "second response unit means for receiving calls in a second call mode." The parties dispute the meaning of the term "second call mode." The plaintiffs contend that the second call mode could encompass anything other than the 800 call mode, which is called out in the first limitation of the claim. The defendants contend that the second call mode must encompass a 900 call mode because a 900 call mode

is called out in the preamble to the claim.

The preamble of Claim 4, which appears Claim 1, reads in part "[a] telephone call processing system for receiving calls from a multitude of terminals in different call modes including an '800' call mode and a '900' call mode." The central dispute is whether the recitation of "900' call mode" in the preamble is a limitation on the claim such that the second call mode called out in the third limitation must be a 900 call mode.

[57] In determining whether the preamble is an additional limitation to the claim, a court must divine the function that the words of the preamble serve. If the claim preamble recites structural limitations of the invention, a court should consider the preamble a limitation on the claim. See *Rowe v. Dror*, 112 F.3d 473, 478 (Fed.Cir.1997). If the claim preamble recites a purpose or intended use for the invention in the preamble and the claim body recites a structurally complete invention, the preamble is not a claim limitation. *Id.* The patent as a whole should be reviewed to determine whether the preamble is structural or a mere statement of the purpose or use of the invention. *Id.*

The preamble of Claim 1 of the '984 patent calls out a system "for receiving calls from a multitude of terminals in different call modes including an '800' call mode and a '900' call mode." This quoted language does not invoke or refer to any structure of the invention. Similarly, the second response unit limitation recites that the second response unit receives calls in a second call mode. This language describes no structure as well. Thus, the Court concludes that the plain language of the Claim 1 indicates that the term "900 call mode" describes a function of managing the calls or a use of the invention, rather than a structural component of the system.

The specification is consistent with the claim language. Column 1, lines 54 through 66 of the '984 patent provides that

[t]he '900' calling mode is useful for implementing games and contests with telephone interface systems; however, certain problems are encountered. Specifically, certain telephone terminals, e.g. pay phones, do not accommodate '900' service. Also, with respect to certain forms of games and contests, it is important to offer members of the public an alternative 'free' method of participation. In general, the system of the present invention may be employed to implement '900' calling modes while accommodating 'free'

participation with reasonable control.

This passage indicates that the invention may be used with a 900 call mode as a method of solving the problems discussed in the specification. Column 2, lines 3 through 17 discusses the problems with using traditional area code numbers with interface systems, including the possibility that an overwhelming number of people will respond. This passage indicates that another use of the invention is addressing problems with area code calls. Thus, the Court concludes that using a 900 call mode is only one of the uses of the invention.

Based on the claim language and the specification, the Court concludes that "900 call mode" as used in the preamble of Claim 1 is more descriptive of an intended use of the invention than of its structure, *639 and thus, should not be construed as an additional limitation on the claim. Therefore, the Court will not construe the term "second call mode" to require the use of a "900 call mode" on this basis.

The defendants also argue that the prosecution history of the '984 patent requires that the second call mode be defined as the 900 call mode. In an Office Action dated March 21, 1991, the examiner rejected certain of Katz's claims as unpatentable over Fodale, including Claim 1. (Ex. 32). In the June 20, 1991 Amendment, Katz amended Claim 1 to specifically call out an 800 call mode and a 900 call mode in the preamble, just as the language appears in the claim as it was issued. The defendants contend that Katz included a "900 call mode" in Claim 1 in the June 20, 1991 Amendment to traverse the examiner's rejection of that claim, and thus, the term "second call mode" in the claim should be limited to the 900 call mode called out in the preamble of the claim.

The Court's careful independent review of the prosecution history, including the basis for the examiner's initial rejection of Claim 1, the amendments made by Katz, and the discussion in the amendment by Katz of the rejection of his claim as unpatentable over Fodale, reveals that the prosecution history cited by the defendants does not support their argument that "second call mode" should be limited to "900 call mode." The defendants point to no affirmative statement by Katz in his amendment that the term "second call mode" was synonymous with 900 call mode nor does the Court find any such statement by Katz. The mere addition of the term "900 call mode" in the preamble does not indicate that Katz was necessarily limiting the term "second call mode" because there is no statement in the prosecution history relating those two terms to each other. Katz did not in his June 20, 1991 submission

amend in any way the use of the term "second call mode" in Claim 1, which left that limitation without reference to the term "900 call mode."

Further, in the same June 20, 1991 Amendment, Katz amended Claim 2 to specifically call out a system wherein the second response unit receives calls in 900 call mode. It may be plausibly inferred that Katz added the phrase "900 call mode" in the preamble of Claim 1 to support his amended Claim 2, rather than to specifically overcome the examiner's objection based on Fodale. Thus, the prosecution history is at best ambiguous as to why Katz added the term "900 call mode" in the preamble of Claim 1. Because Katz did not clearly disclose his intention to do so, the Court will not limit the plain meaning of the claim language based on this ambiguous prosecution history.

Based on the foregoing, the Court concludes that "second call mode" means: a call mode, such as a 900 call mode or an area code mode, other than 800 call mode. The term does not necessarily mean the 900 call mode.

d. "Means for Processing Calls in an Interface Format"

[58] The parties agree that this limitation of Claim 4 of the '984 patent is subject to § 112, ¶ 6. The function performed by the means is processing calls in an interface format. The plaintiffs identify the interface processor 26 as the corresponding structure. The defendants contend that the structures that correspond to the means are the processor 26, random number generator 40, question memory 38, caller record 44, coincidence detector 42 and gate 46 of Figure 1, plus the associated software in Figure 2. The defendants contend that the software must be configured to implement a contest that provides questions to callers, receives answers entered by the callers on the keypad of their telephones, and determines winners of the contest.

The structures identified by the defendants are discussed in Column 8, line 65 through Column 9, line 57 and Column 4, line 57 through Column 5 line 18 as part of the illustrative embodiment of a game format. *640 In Column 6, lines 63 through 66, the specification provides that "the interface processor 26 receives the calling number and processes the contest format as described in detail below." Thus, the Court concludes that the structure that performs the function of processing calls in an interface format is the interface processor 26 of Figure 1. The Court concludes that the structures that are discussed in the

context of the game format are not necessarily required to perform the function of processing calls in an interface format, because the game format is only an example of one type of interface format.

2. Claim 15

a. "Memory Means for Storing Caller Cues and Use Indications"

[59] The plaintiffs agree that all of the limitations of Claim 15 are subject to means-plus-function analysis except for the limitation that reads "memory means for storing caller cues and use indications for said caller cues in relation to said callers as identified by said identification signals." Consistent with the Court's conclusion above in footnote 14, the Court concludes that "memory means" would have connoted sufficient structure to one of ordinary skill in the art at the time of the Katz patents such that it is not subject to analysis under § 112, ¶ 6. The Court defines "memory means" as computer hardware that stores information, such as disks, RAM, or tapes.

The defendants also contend that the "caller cues" recited in this limitation must be quiz or lottery questions, as disclosed in the specification. Similar to the defendants' argument that the term "format" should be restricted to the seven disclosed formats, the Court concludes that there is no support in the claim language or specification for limiting the ordinary and common meaning of "cues" to only questions posed in a quiz or lottery. Thus, the Court construes the term "caller cues" to mean: questions or prompts which are given to a caller.

b. "Means for Selecting a Current Caller Cue"

[60] The last limitation in Claim 15 of the '984 patent reads "means for selecting a current caller cue from said memory means for one of said currently active callers for application to said cue means under control of said identification signals for said one of said currently active callers and said use indications in said memory means for said one of said currently active callers."

There is no dispute that the term "means for selecting a current caller cue" is subject to means-plus-function analysis. The function performed by the means is "selecting a current caller cue from said memory means for one of said currently active callers under control of said identification signals ... and said use indications." The parties' dispute centers on whether the random number generator is one of the structures that correspond to the means.

The defendants contend that in addition to the gate 46, the interface processor 26, the coincidence detector 42, and the associated software, the random number generator 38 is essential to perform the function called out in the claim because the specification does not provide for a way to choose questions other than randomly. The plaintiffs contend that the specification shows that the coincidence detector 42 is the structure which decides whether a question is posed to a caller based on use indications associated with that caller.

The specification describes the process of selecting a caller cue in Column 4, lines 59 through Column 5, line 1, which provides that "[g]enerally, the interface processor 26 poses questions to calling contestants.... Questions given to contestants are selected from a memory 38 by a random number generator 40. Essentially, the memory 38 contains an inventory of questions addressable by number provided by the random number generator 40. The *641 address numbers for the generator 40 are also supplied to a coincidence detector 42 that also receives the address numerals of questions previously presented to a specific caller from a record 44." See also Column 8, line 65 through Column 9, line 28.

Thus, based on these passages of the specification, the Court concludes that the "means" in "means for selecting a current caller cue" corresponds to the interface processor 26, the coincidence detector 42, the random number generator 38, and the associated software to perform the function of selecting a current caller cue from memory under control of identification signals and use indications.

III. CONCLUSION

The foregoing constitutes the Court's construction of the terms presented by the parties from the twenty claims designated for the Markman hearing.

An appropriate Order follows.

ORDER

AND NOW, this 26th day of August, 1999, upon consideration of the briefs, expert testimony, and oral argument presented by the parties in connection with the Markman hearing held from May 24, 1999 through June 4, 1999, in which counsel for all parties participated, and upon consideration of the intrinsic and extrinsic records of the patents-at-issue as indicated in the foregoing Memorandum, it is hereby ORDERED that the meaning and scope of the patent claims asserted to be infringed and presented by the

parties for construction are hereby determined as set forth in the foregoing Memorandum.

APPENDIX
ANALYSIS CONTROL SYSTEM CLAIMS
'309 Patent, Claim 51

46. A control system for use with a communication facility including remote terminals for individual callers, wherein each of said remote terminals may comprise a conventional telephone instrument including voice communication means, and digital input means in the form of an array of alphabetic numeric buttons for providing data, said control system comprising:

an interface structure coupled to said communication facility to interface said remote terminals for voice and digital communication, and including means to provide caller data signals representative of data relating to said individual callers developed by said remote terminals; voice generator structure coupled through said interface structure for actuating said remote terminals as to provide vocal operating instructions to said individual callers; record structure, including memory and control means, connected to receive said caller data signals from said interface structure for updating a file and storing digital caller data relating to said individual callers provided from said digital input means through said interface structure; and qualification structure controlled by said record structure for testing caller data signals provided by a respective one of said individual callers to specify a consumable participation key for restricting the extent of access to said system to limit data stored from said respective one of said individual callers on the basis of entitlement.

51. A system according to claim 46 wherein said qualification structure restricts the extent of access by said respective one of said individual callers to a single use entitlement.

'707 Patent, Claim 33

26. An analysis control system for use with a communication facility including remote terminals for individual callers, wherein each of said remote terminals may comprise a conventional telephone instrument including voice communication means and digital input means in the form of an array of alphabetic numeric buttons for *642 providing data and wherein said communication facility has a capability to automatically provide calling number identification data for at least certain of said

individual callers, said analysis control system comprising:

an interface structure coupled to said communication facility to interface said remote terminals for voice and digital communication; voice generator structure coupled through said interface structure for actuating said remote terminals as to provide vocal operating instructions to said individual callers; record structure, including memory and control means, connected to receive said calling number identification data provided automatically by said communication facility for at least certain of said individual callers, for accessing a file, and storing additional digital data provided by said callers; and qualification structure controlled by said record structure for testing said calling number identification data to specify a basis for entitlement defining a limit on use, for restricting the extent of access to said system for a respective one of said certain of said individual callers.

33. An analysis control system according to claim 26, wherein said limit on use relates to a dollar amount.

'707 Patent, Claim 104

96. An analysis control system for use with a communication facility including remote terminals for individual callers, wherein each of said remote terminals may comprise a conventional telephone instrument including voice communication means and digital input means in the form of an array of alphabetic numeric buttons for providing data wherein said communication facility has a capability to provide call data signals indicative of calling number identification data for at least certain of said individual callers, said analysis control system comprising:

interface structure coupled to said communication facility to interface each of said remote terminals for voice and digital communication, and including means to provide signals representative of data developed by said remote terminals and for receiving said calling number identification data; voice generator structure coupled through said interface structure for actuating said remote terminals as to provide vocal operating instructions to said individual callers; record structure, including memory and control means, connected to said interface structure for accessing a file and storing data relating to certain select ones of said individual callers in accordance with said calling number identification data;

qualification structure controlled by said record structure for controlling access to said system by said individual callers; and means for processing at least certain of said data developed by said terminals and said calling number identification data relating to certain select ones of said individual callers.

103. A system according to claim 96 for use with a communication facility having a capability (DNIS) to provide called number identification data to identify a called number from a plurality of different numbers for calling, and further including means for selecting a specific one of a plurality of formats of said interface structure.

104. A system according to claim 103, wherein said called number identifies a specific one of a plurality of operating formats for interface.

'707 Patent, Claim 117

96. An analysis control system for use with a communication facility including remote terminals for individual callers, wherein each of said remote terminals may *643 comprise a conventional telephone instrument including voice communication means and digital input means in the form of an array of alphabetic numeric buttons for providing data wherein said communication facility has a capability to provide call data signals indicative of calling number identification data for at least certain of said individual callers, said analysis control system comprising:

interface structure coupled to said communication facility to interface each of said remote terminals for voice and digital communication, and including means to provide signals representative of data developed by said remote terminals and for receiving said calling number identification data; voice generator structure coupled through said interface structure for actuating said remote terminals as to provide vocal operating instructions to said individual callers; record structure, including memory and control means, connected to said interface structure for accessing a file and storing data relating to certain select ones of said individual callers in accordance with said calling number identification data; qualification structure controlled by said record structure for controlling access to said system by said individual callers; and means for processing at least certain of said data developed by said terminals and said calling number identification data relating to certain select ones of said individual callers.

115. A system according to claim 96, wherein said individual callers provide other data.

116. A system according to claim 115, wherein said individual callers provide caller credit card number data as said other data.

117. A system according to claim 116, wherein said individual callers provide expiration data for caller credit card number data.

'707 Patent, Claim 192

183. An analysis control system for use with a communication facility including remote terminals for individual callers, wherein each of said remote terminals may comprise a conventional telephone instrument including voice communication means and digital input means in the form of an array of alphabetic numeric buttons for providing data and wherein said communication facility has a capability to provide calling number identification data, said analysis control system comprising:

interface structure coupled to said communication facility to interface said remote terminals for voice and digital communication and including means to receive caller data signals representative of data relating to said individual callers, including caller personal identification data and said calling number identification data provided automatically from said communication facility; voice generator structure coupled through said interface structure for actuating said remote terminals as to provide vocal operating instructions to said individual callers and to prompt said individual callers to enter data; record testing structure connected to receive and test said caller data signals including said calling number identification data and said caller personal identification data against previously stored calling number identification and caller personal identification data; and analysis structure for receiving and processing said caller data signals under control of said record testing structure.

191. An analysis control system according to claim 183, wherein said communication facility automatically provides called number identification data (DNIS) to identify a select called number from a plurality of called numbers.

*644 192. An analysis control system according to claim 191, wherein said select called number (DNIS) identifies a select format from a plurality of distinct

operating formats.

'863 Patent, Claim 49

27. An analysis control system for use with a communication facility including remote terminals for individual callers, wherein said remote terminals may comprise a conventional telephone instrument including voice communication means, and digital input means in the form of an array of alphabetic numeric buttons for providing data, said analysis control system comprising:

interface structure coupled to said communication facility to interface said remote terminals for voice and digital communication, and including means to provide caller data signals representative of data relating to said individual callers developed by said remote terminals and including means to receive called number identification signals (DNIS) automatically provided by said communication facility to identify a select one of a plurality of different called numbers associated with a select format of a plurality of different formats; record structure, including memory and control means, said record structure connected to receive said caller data signals from said interface structure for accessing a file and storing certain of said data developed by said remote terminals relating to certain select ones of said individual callers; qualification structure coupled to said record structure for qualifying access by said individual callers to said select format based on at least two forms of distinct identification including callers customer number data and at least one other distinct identification data element consisting of personal identification data provided by a respective one of said individual callers; and switching structure coupled to said interface structure for switching certain select ones of said individual callers at said remote terminals to any one of a plurality of live operators wherein said live operators can enter at least a portion of said caller data relating to said select ones of said individual callers through interface terminals, which is stored in said record structure.

49. An analysis control system according to claim 27, wherein an additional form of distinct identification is provided by said individual callers on-line and is stored for subsequent use.

'863 Patent, Claim 50

50. A system according to claim 27, wherein said qualification structure further executes a test for unacceptable customer numbers based upon data

developed by said remote terminals indicative of said caller customer numbers.

27. (See above).

'863 Patent, Claim 65

65. An analysis control system for use with a communication facility including remote terminals for individual callers, wherein each of said remote terminals may comprise a conventional telephone instrument including voice communication means, and digital input means in the form of an array of alphabetic numeric buttons for providing data, said analysis control system comprising:

an interface structure coupled to said communication facility to interface said remote terminals for voice and digital communication, and including means to provide caller data signals representative of data relating to said individual callers developed by said remote terminals and including means to automatically receive called number identification signals (DNIS) to identify a select format from a plurality of formats; voice generator structure coupled through said interface structure for actuating said remote terminals as to *645 provide voice operating instructions to said individual callers; record structure, including memory and control means, said record structure connected to receive said caller data signals from said interface structure for accessing a file and storing digital caller data relating to said individual callers provided from said digital input means through said interface structure; and qualification structure for testing caller data signals provided by at least one of said individual callers to specify a consumable participation key, said consumable participation key for use during a single predetermined period of time for restricting the extent of access to at least a portion of said system by said one of said individual callers on the basis of entitlement.

'863 Patent, Claim 171

93. An analysis control system for use with a communication facility including remote terminals for individual callers, wherein each of said remote terminals may comprise a conventional telephone instrument including voice communication means and digital input means in the form of an array of alphabetic numeric buttons for providing data and wherein said communication facility has a capability to provide call data signals indicative of calling number identification data and called number

identification data for at least certain of said individual callers, said analysis control system comprising:

interface structure coupled to said communication facility to interface each of said remote terminals for voice and digital communication, and including means to provide signals representative of data developed by said remote terminals and for receiving said calling number identification data and said called number identification data (DNIS) to identify one from a plurality of called numbers; voice generator structure coupled though said interface structure for actuating said remote terminals as to provide vocal operating instructions to said individual callers; record structure, including memory and control means, said record structure connected to said interface structure for accessing a file and storing data relating to certain select ones of said individual callers in accordance with said calling number identification data; qualification structure controlled by said record structure for controlling access to said system by said individual callers; and means for processing at least certain of said data developed by said remote terminals relating to certain select ones of said individual callers.

169. An analysis control system according to claim 93, wherein said data relating to certain select ones of said individual callers includes credit card number data.

171. An analysis control system according to claim 169, wherein said credit card number data is tested against unacceptable credit card numbers.

CLAIMS INVOLVING PRODUCTS CARRYING PARTICIPATION NUMBERS

'707 Patent, Claim 44

37. A process for controlling operations of an interface with a telephonic communication system including remote terminals for individual callers, wherein each of said remote terminals may comprise a conventional telephone instrument including voice communication means and digital input means in the form of an array of alphabetic numeric buttons for providing data and wherein said telephonic communication system has a central capability to automatically provide call data signals, indicative of calling number identification data (DNIS) or both, said process including the steps of:

*646 providing products carrying participation numbers specifying limits on use to entitle individual callers to access said operations of the

interface with said telephonic communication system; receiving said call data signals indicative of called number identification data including a called number (DNIS) dialed by a respective one of said individual callers to select a specific operating format from a plurality of operating formats of said operations of the interface;

coupling said remote terminals to said interface for providing voice signals to said individual callers and generating said voice signals for actuating said remote terminals as to provide vocal operating instructions to specific ones of said individual callers;

receiving digital identification data from said individual callers responsive to said voice signals including said participation numbers for said individuals callers and answer data developed by said remote terminals under control of said individuals callers;

qualifying said individual callers by testing to determine if said individual callers are entitled to access said operations of the interface based on said limits on use specified by said participation numbers for said individual callers and accordingly providing approval signals for qualified individual callers;

conditionally accessing a memory with said participation numbers and storing data relating to calls from said individual callers;

processing at least certain of said answer data responsive to said approval signals; and

providing on-going accounting data to said individual callers at intervals during calls from said individual callers.

44. A process for controlling operations of an interface with a telephonic communication system according to claim 37, further comprising the step of: invalidating on-line said participation numbers after said limits on use specified by said participation numbers are reached.

'707 Patent, Claim 93

69. A process for controlling operations of an interface with a telephone communication system, said process including steps of:

providing products carrying participation numbers specifying limits on use to entitle individual callers to access said operations of the interface with said telephone communication system; coupling remote terminals to said interface for providing voice signals to said individual callers and generating said voice signals for actuating said remote terminals as to provide vocal operating

instructions to specific ones of said individual callers;
receiving digital identification data from said individual callers responsive to said voice signals including said participation numbers for said individual callers and answer data provided from said remote terminals under control of said individual callers;
qualifying said individual callers by testing to determine if said individual callers are entitled to access said operations of the interface based on said limits on use specified by said participation numbers for said individual callers and accordingly providing approval signals for qualified individual callers;
accessing a memory with said participation numbers for said individual callers and storing data relating to calls from said individual callers;
*647 processing at least certain of said answer data responsive to said approval signals.

93. A process for controlling operations of an interface with a telephone communication system according to claim 69, wherein said participation numbers are numbers coded for verification.

'863 Patent, Claim 79

79. A process for controlling operations of an interface with a telephonic communication system including remote terminals for individual callers, wherein each of said remote terminals may comprise a conventional telephone instrument including voice communication means and digital input means in the form of an array of alphabetic numeric buttons for providing data and wherein said telephonic communications system has a capability to automatically provide call data signals indicative of calling number identification data or called number identification data (DNIS) or both, said process including the steps of:

providing products carrying concealed participation numbers specifying limits on use to entitle said individual callers to access said operations of the interface with said telephonic communications system;
receiving said call data signals indicative of called number identification data including a called number (DNIS) dialed by individual callers to select a specific operating format from a plurality of operating formats of said operations of the interface;
coupling remote terminals to said interface for providing voice signals to said individual callers and generating said voice signals for actuating said remote terminals as to provide vocal operating

instructions to specific ones of said individual callers;
receiving digital identification data from said individual callers responsive to said voice signals including said participation numbers and answer data provided from said remote terminals under control of said individual callers;
qualifying said individual callers by testing to determine if said individual callers are entitled to access said operations of the interface based on said limits on use specified by said participation numbers and accordingly approving qualified individual callers;
conditionally aborting interaction during said operations of the interface with an individual caller at an [sic] remote terminal and coupling said remote terminal to an interface terminal under predetermined conditions for direct personal communication;
accessing a memory with said participation numbers and storing data relating to calls from said individual callers; and
processing at least certain of said answer data responsive to approving said qualified individual callers.

'863 Patent, Claim 190

188. A process for controlling operations of an interface with a telephone communications system, said process including the steps of:

providing products carrying key numbers for participation specifying limits on use to entitle individual callers to access said operations of the interface with said telephone communications system;
coupling remote terminals to said interface for providing voice signals to said individual callers and generating said voice signals for actuating said remote terminals as to provide voice operating instructions to specific ones of said individual callers;
receiving digital identification data from said individual callers responsive to said voice signals including said key numbers for said individual callers and answer data provided from said *648 remote terminals under control of said individual callers;
qualifying said individual callers by testing to determine if said individual callers are entitled to access said operations of the interface based on said limits on use specified by said key numbers for said individual callers and accordingly providing approval signals for qualified callers;
accessing a memory with said key numbers for said individual callers and storing data relating to calls

from said individual callers; and providing certain of said voice signals to said individual callers to indicate computer generated number data formed during operations of the interface.

189. A process according to claim 188, wherein said computer generated number data is stored in said memory.

190. A process according to claim 189 wherein said computer generated number data is stored in association with said digital identification data.

CONDITIONAL FORMAT CLAIMS
'150 Patent, Claim 15

10. A process for interfacing a telephonic communication system including remote terminals with a multiple port, multiple format data processing system, said multiple port, multiple format data processing system for concurrently processing data from said remote terminals according to a plurality of formats, at least one of said formats having at least one condition for a calling terminal, and wherein said telephonic communication system provides call data signals, as to indicate called and calling numbers, said process including the steps of:

receiving said call data signals from said telephonic communication system for a calling remote terminal;
selecting a processing format of said multiple port, multiple format processing system for the calling remote terminal under control of said data signals as the selected format;
testing the selected format in relation to said call data signals; and
conditionally interfacing said selected format to a calling terminal under control of said testing of call data signals.

11. A process according to claim 10 further including the step of fetching control data addressable with said call data for use in the step of testing.

15. A process according to claim 11 wherein said step of fetching control data includes fetching data to specify demographic conditions.

'285 Patent, Claim 17

17. A process for interfacing (1) a telephonic communication system including remote terminals either with (2) a multiple port, multiple format data processing system, said multiple port, multiple

format data processing system for concurrently processing data from said remote terminals according to a plurality of formats at least one of said formats at lease one condition for a calling terminal, or (3) one of a plurality of operator stations with prompting capability for a plurality of formats, and wherein said telephonic communications system provides call data signals, as to indicate called and calling numbers, said process including the steps of:

receiving said call data signals from said telephonic communications system for a calling remote terminal indicative of DNIS and ANI automatically provided by said telephonic communications system;

selecting a processing format either for said multiple port, multiple format processing system or one of said plurality of operator stations for the calling remote terminal under control of said data signals as the selected format;

testing the selected format in relation to said call data signals; and

*649 conditionally interfacing said calling terminal to said multiple port, multiple format data processing system for execution of said selected format or to one of said plurality of operator stations under control of said testing of call data signals.

'285 Patent, Claim 20

20. A method for interfacing (1) a telephonic communications system including individual remote calling terminals for individual callers with (2) a multiple port, multiple format data processing system, said multiple port, multiple format data processing system for concurrently processing data from said remote terminals according to a plurality of formats, at least of one said formats having at least one specified condition for said remote terminals calling to interface said data processing system, and (3) a plurality of live operator attended terminals and wherein said telephonic communication system includes the capability of providing call data signals, said method comprising the steps of:

receiving said call data signals from said telephonic communications system for said remote terminals calling to interface said data processing system including DNIS automatically provided by said telephonic communication system;

selecting for said remote terminals a select processing format from said plurality of formats of said multiple port, multiple format data processing system under control of said call data signals including DNIS provided by said telephonic communications system;

testing said select processing format in relation to

said call data signals;
conditionally interfacing said selected processing format to said remote terminals selectively terminating certain select calls from said remote terminals in favor of said operator attended terminals; and
transferring substantially all of said certain select calls from said operator attended terminals back to said multiple port, multiple format data processing system.

19. A method for interfacing (1) a telephonic communications system including individual remote calling terminals for individual callers with (2) a multiple port, multiple format data processing system, said multiple port, multiple format data processing system for concurrently processing data from said remote terminals according to a plurality of formats, at least one of one said formats having at least one imposed condition for said remote terminals calling to interface said data processing system and (3) a plurality of live operator attended terminals and wherein said telephonic communication system includes the capability of providing call data signals, said method comprising the steps of:

receiving said call data signals from said telephonic communications system for said remote terminals calling to interface said data processing system including DNIS automatically provided by said telephonic communication system;

selecting for said remote terminals a select processing format from said plurality of formats of said multiple port, multiple format data processing system under control of said call data signals including DNIS provided by said telephonic communications system;

testing said select processing format in relation to said call data signals;

conditionally interfacing said select processing format to said remote terminals under control of said testing in relation to said call data signals; and selectively terminating certain select calls from said remote terminals in favor of said operator attended terminals.

***650 22. A method for interfacing a telephonic communications system according to claim 19, further comprising the step of:**

providing signal-represented call data from said remote terminals including calling numbers as additional call data signals.

24. a method for interfacing a telephonic communications system according to claim 22,

further comprising the steps of:
storing a record of negative file data, said select processing format using said additional call data signals to access said record and obtain data to specify and test for negative file conditions; and terminating calls from said remote terminals if said calling number matches said data obtained from said negative file data.

'285 Patent, Claim 77

65. An interface control system for use with, (1) a communication facility including remote terminals for individual callers to make calls, wherein said remote terminals may comprise a conventional telephone instrument including voice communication means and some of said remote terminals may further comprise digital input means for providing data, and (2) a multiple port, multiple format processor for concurrently processing data from a substantial number of callers in any of a plurality of formats, said communication facility automatically provides call data signals, as to indicate called data (DNIS), to select a particular format from said plurality of formats, and (3) a plurality of live operator attended terminals with prompting capability, for a plurality of formats, said interface control system comprising:

interface means for providing automated voice messages relating to a specific format to certain of said individual callers, wherein said certain of said individual callers digitally enter data through said digital input means;

means for directly forwarding a call coupled to said interface means for forwarding a call from any one of said remote terminals to one of said plurality of live operator attended terminals under control of said call data signals when said remote terminals do not have the capability to digitally provide data; means for processing coupled to said live operator attended terminals for processing caller information data entered by an operator at said live operator attended terminal; and

means for storing coupled to said interface means and said processing means for storing certain select data from said caller information data entered by said operator and data entered digitally by said individual callers.

77. An interface control system according to claim 65, wherein at least one of said plurality of formats has at least one imposed condition for said remote terminals calling to interface said interface control system.

'984 PATENT CLAIMS
'984 Patent, Claim 4

1. A telephone call processing system for receiving calls from a multitude of terminals in different call modes including an "800" call mode and a "900" call mode for processing to an interface format and involving digital signals associated with said terminals as for identification or data, said system comprising:

first response unit means for receiving calls in said "800" call mode;
qualification means for qualifying said calls in said "800" call mode received by said first response unit to provide qualified calls;
second response unit means for receiving calls in a second call mode;
means for processing calls in an interface format;
and
*651 means for coupling said qualified calls and said calls in a second mode to said means for processing.

4. A system according to claim 1 wherein said qualification means comprises means for testing said digital signals associated with said terminals originating said calls.

'984 Patent, Claim 15

15. A telephone interface system for individually interfacing callers at a multitude of remote terminals for voice-digital communication through a telephone communication facility, said system comprising:

communication means for establishing telephone communication with currently active callers at certain of said terminals through said telephone communication facility;
means for providing identification signals to said communication means indicative of said currently active callers, said means for providing identification signals comprising means for providing at least a portion of the digits associated with a remote terminal for identification;
memory means for storing caller cues and use indications for said caller cues in relation to said callers as identified by said identification signals;
cue means for receiving said caller cues to provide voice signals through said communications means to prompt responses from said currently active of said callers in the form of digital data signals; and
means for selecting a current caller cue from said memory means for one of said currently active callers for application to said cue means under control of said identification signals for said one of said currently active callers and said use indications in said memory means for said one of

said currently active callers.

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Only the Westlaw citation is currently available.

This case was not selected for publication in the Federal Reporter.

NOTE: Pursuant to Fed.Cir.R. 47.6, this order is not citable as precedent. It is public record.

Please use FIND to look at the applicable circuit court rule before citing this opinion. Federal Circuit Rule 47.6. (FIND CTAF Rule 47.6.)

circulating the air in the food compartment picnic box" (emphasis added). Marlow filed an infringement action against Igloo in September 1996 and cross-moved for partial summary judgment on September 29, 1997, claiming that, as a matter of law, several of the contested picnic boxes infringed the patent.

In an opinion dated April 3, 1998, the district court concluded, "it is obvious that the plain meaning of Claim 1 requires that the picnic box be capable of both 'heating and cooling.'" Both parties moved the court to reconsider its April 3 order. On September 1, 1998, the district court entered an order denying Marlow's motion for reconsideration, but granting Igloo's motion in part by vacating its prior ruling that some of the accused picnic boxes literally infringed the '193 patent, concluding rather that none of the accused products literally infringed the patent. The court left open several issues regarding infringement under the doctrine of equivalents.

In June 1998, Igloo requested the PTO to reexamine the '193 patent to consider prior art that was not previously considered. Marlow subsequently moved to stay further action in the district court until completion of the reexamination proceedings. Igloo's request for the final reexamination brought to the examiner's attention the pending infringement litigation in the district court between Marlow and Igloo, and included a copy of Marlow's brief in support of its September 29, 1997, motion for partial summary judgment. During the reexamination, Marlow attempted to amend the patent by adding claims 4 and 5. These claims included language that covers a picnic box, which "cools or heats" (independent claim 4) and which "only cools" (claim 5, depending from claim 4). The examiner rejected these claims pursuant to 35 U.S.C. § 305, which prohibits expanding the scope of the claimed invention during a reexamination.

Marlow then attempted for a second time to amend the patent by adding claims 6 and 7. These claims, both depending from claim 1, included language covering a picnic box, which "heats and circulates only warm air" (claim 6) and which "cools and only circulates cooled air" (claim 7). The examiner again rejected these claims as an attempt to impermissibly broaden the scope of the original patent. Marlow appealed the examiner's rejection of its claims, including the rejection of its four proposed amendments, to the Board of Patent Appeals and Interferences ("Board"). The Board affirmed the examiner's rejection of proposed claims 5-7. However, the Board reversed the examiner's rejection

United States Court of Appeals, Federal Circuit.

MARLOW INDUSTRIES, INC., Plaintiff-Appellant,
v.
IGLOO PRODUCTS CORP., Defendant-Appellee.

No. 02-1386.

May 23, 2003.

Before LOURIE, LINDNER, and PROST, Circuit Judges.

PROST, Circuit Judge.

*1 Marlow Industries, Inc. ("Marlow") appeals from the decision of the United States District Court for the Northern District of Texas granting summary judgment to Igloo Products Corp. and holding Marlow's United States Patent No. 4,726,193 ("the '193 patent"), as amended by Reexamination Certificate B1 4,726,193 ("the first reexamination") and Reexamination Certificate U.S. 4,726,193 C2 ("the final reexamination") unenforceable due to Marlow's inequitable conduct before the United States Patent and Trademark Office ("PTO"). *Marlow Indus., Inc. v. Igloo Prods. Corp.*, No. 396-CV-2688-P, 2002 WL 485698 (N.D.Tex. Mar. 28, 2002). Because the district court did not commit error in granting Igloo's motion for summary judgment, we affirm the judgment.

I

The '193 patent covers picnic boxes. Independent claim 1 reads in pertinent part "[a] refrigerator/food warmer picnic box apparatus or the like comprising ... means ... for selectively heating and cooling and

of claim 4 on the basis that it, like preexisting claim 1, includes the "selectively heating and cooling" language and, thus, cannot be construed as enlarging the scope of the claimed invention.

*2 In August 2001, Igloo moved for summary judgment in the district court, in which the infringement action was pending, alleging that Marlow had committed inequitable conduct by failing to disclose to the examiner during the final reexamination of the '193 patent the court's prior claim construction of that patent. The district court determined that Marlow had failed during the reexamination to provide the examiner with the court's April 3 and September 1, 1998 orders, that these orders were material to the reexamination proceeding, and that Marlow knew or should have known that a patent examiner would have found such information material. The district court also found that Marlow failed to submit to the examiner its motion for reconsideration of the court's April 3 order, but the court did not analyze Marlow's inequitable conduct with regard to its failure to submit this document. Based upon these findings, the court concluded that Marlow engaged in inequitable conduct before the PTO. The district court therefore granted Igloo's motion for summary judgment and declared all claims of the '193 patent unenforceable.

Marlow filed a timely appeal and we have jurisdiction pursuant to 28 U.S.C. § 1295(a)(1).

II

We review the district court's grant of summary judgment *de novo*, with all justifiable factual inferences being drawn in favor of the party opposing the motion. See Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 255 (1986). Summary judgment is appropriate where there is no genuine issue of material fact and the moving party is entitled to judgment as a matter of law. See Fed.R.Civ.P. 56(c). Under Anderson, whether a given factual dispute requires submission to a jury must be guided by the substantive evidentiary standards that apply to the case. 477 U.S. at 255. It is the substantive law's identification of which facts are critical and which facts are irrelevant that governs whether a genuine issue of material fact exists. Id. at 247-48.

It is well settled that patent applicants are required to prosecute patent applications "with candor, good faith, and honesty." Molins PLC v. Textron, Inc., 48 F.3d 1172, 1178, 33 USPQ2d 1823, 1826 (Fed.Cir.1995). This duty likewise applies to reexamination proceedings. 37 C.F.R. § 1.555

(2002). A breach of this duty can take several forms, including the failure to disclose material information. Molins, 48 F.3d at 1178, 33 USPQ2d at 1826. Further, a breach of this duty, when coupled with an intent to deceive or mislead the PTO, constitutes inequitable conduct, which, when proven, renders the patent unenforceable. Id. at 1178, 33 USPQ2d at 1827.

To establish Marlow's inequitable conduct, Igloo must show by "clear and convincing evidence" that Marlow failed to disclose material information with intent to deceive the PTO. Kingsdown Med Consultants Ltd v. Hollister, Inc., 863 F.2d 867, 872, 9 USPQ2d 1384, 1389 (Fed.Cir.1988); FMC Corp. v. Manitowoc Co., 835 F.2d 1411, 1415, 5 USPQ2d 1112, 1115 (Fed.Cir.1987). Once the materiality of the information and Marlow's intent to mislead have been established, the district court must "weigh them to determine whether the equities warrant a conclusion that inequitable conduct occurred." Molins, 48 F.3d at 1178, 33 USPQ2d at 1827. Moreover, when balanced against high materiality, the showing of intent can be proportionally less. Brasseler, U.S.A. I. L.P. v. Stryker Sales Corp., 267 F.3d 1370, 1381, 60 USPQ2d 1482, 1488 (Fed.Cir.2001).

*3 On appeal, Marlow maintains that the district court erred in granting summary judgment to Igloo because it raised genuine issues of material fact. According to Marlow, the district court impermissibly weighed the evidence regarding its failure to disclose information to the PTO, the materiality of the allegedly withheld information, and Marlow's intent to deceive the PTO. Igloo counters that Marlow has no additional evidence to offer that would warrant changing the district court's determination or that would otherwise merit further proceedings. After drawing all justifiable inferences in favor of Marlow, we conclude that there are no genuine issues of material fact with regard to Marlow's inequitable conduct and Igloo is entitled to judgment as a matter of law.

A

Marlow first argues that a genuine issue of material fact exists with regard to whether it withheld any information relating to the district court action from the PTO during the final reexamination. In this regard, Marlow notes that it advised the examiner that the '193 patent was the subject of an infringement action pending before the district court, the examiner was provided with copies of the particular documents relating to those proceedings

which Igloo believed relevant to the final reexamination, and the entire record was made available to the examiner by Marlow's and Igloo's disclosures.

Igloo maintains that Marlow never once apprised the examiner of the substance of the district court's claim construction of the '193 patent or even of the fact that the court had construed the patent. Igloo specifically contends that the district court correctly found that Marlow failed to submit the three disputed documents to the examiner.

The district court did not err in concluding that there was no genuine issue of material fact with respect to Marlow's failure to submit copies of the disputed documents to the examiner during the final reexamination. In its responses to Igloo's Requests for Admission Nos. 92-94, Marlow admitted that at the time of the issuance of the final reexamination, the file wrapper did not include copies of these documents. We reject Marlow's argument that a genuine issue of material fact exists as to whether it withheld any information relating to the infringement action from the PTO. Informing the examiner of the pending infringement action is not commensurate with bringing to the examiner's attention the district court's prior claim construction of the patent or disclosing the court orders embodying this construction. *See Rohm & Haas Co. v. Crystal Chem. Co.*, 722 F.2d 1556, 1572-73, 220 USPQ 289, 302 (Fed.Cir.1983) (concluding that a presumption that an examiner was able to find, with his expertise and adequate time, the critical data when he was presented with a "mountain of largely irrelevant data" ignores the real world conditions under which examiners work). Moreover, the only document from the infringement litigation submitted to the examiner was Marlow's motion for partial summary judgment filed on September 25, 1997, which was included as an exhibit to Igloo's request for reexamination. This document, however, was filed in the district court more than six months prior to the court's initial construction of the '193 patent and, thus, had no bearing on the scope of the claims at issue during the reexamination proceedings.

B

*4 Marlow next argues that a genuine issue of material fact exists with regard to the materiality of the district court's claim construction orders. "Materiality is not limited to prior art but embraces any information that a reasonable examiner would be substantially likely to consider important in deciding whether to allow an application to issue as a patent."

GFI, Inc. v. Franklin Corp., 265 F.3d 1268, 1273, 60 USPQ2d 1141, 1143 (Fed.Cir.2001) (emphasis in original); 37 C.F.R. § 1.56(b) (2002).

Marlow contends that in reaching its finding that its previous orders were material to the examiner's final reexamination of the '193 patent, the district court erroneously assumed that: (1) the construction of claim 1, and thus claim 4, applied by the Board was in conflict with the district court's construction of claim 1; and (2) Marlow was attempting during the reexamination to avoid the district court's requirement that to infringe the '193 patent an accused device had to be capable of both heating and cooling. According to Marlow, it argued to the examiner that claim 1 could not require both "simultaneous" heating and cooling because that would be physically impossible, which is not inconsistent with the district court's interpretation of the claim.

Igloo responds that the district court correctly concluded that the disputed documents were material to the final reexamination because: (1) they bore directly on the scope of the claims that Marlow attempted to amend; and (2) Marlow's interpretation of the patent asserted before the examiner was inconsistent with the district court's construction of the patent and Marlow's acquiescence to that construction.

The district court did not err in concluding that there was no genuine issue of material fact with respect to the materiality of the April 3 and September 1, 1998, orders to the final reexamination from the standpoint of a reasonable examiner reviewing Marlow's proposed amendments. Faced with Marlow's attempts to amend claim language in the '193 patent, the examiner had to first construe the scope of the claims, including the specific language covering picnic boxes that are capable of both "heating and cooling," to determine whether the proposed "cools or heats" language would impermissibly enlarge the scope of the patent. *See 35 U.S.C. § 305(a) (2002)*. In addition, the district court's two previous orders construing the '193 patent and concluding that picnic boxes that only cooled did not infringe the patent were binding on the examiner under the doctrine of issue preclusion. *See In re Freeman*, 30 F.3d 1459, 1466-69, 31 USPQ2d 1444, 1448-51 (Fed.Cir.1994) (concluding that the Board was bound by the district court's prior interpretation of the reissue claims under the doctrine of issue preclusion). Thus, a reasonable examiner would have been substantially likely to consider these two orders important in deciding whether to allow the amendments to issue.

*5 Moreover, contrary to Marlow's assertion, whether or not the Board, applying the same construction of claim 1 as the district court, found claim 4 equivalent in scope to claim 1 is irrelevant to the materiality inquiry. This court has articulated the materiality criterion as follows:

[T]he standard to be applied in determining whether a reference is "material" is not whether the particular examiner of the application at issue considered the reference to be important; rather, it is that of a "reasonable examiner." Nor is a reference immaterial simply because the claims are eventually deemed by an examiner to be patentable thereafter.

Molins, 48 F.3d at 1179, 33 USPQ2d at 1828 (citation omitted); *Perseptive Biosystems, Inc. v. Pharmacia Biotech, Inc.*, 225 F.3d 1315, 1322, 56 USPQ2d 1001, 1006 (Fed.Cir.2000) (stating that a patent may be valid and yet be rendered unenforceable due to inequitable conduct). Thus, that the Board's interpretation of the '193 patent may have been consistent with the district court's previous construction does not eviscerate the materiality of the previous orders from the viewpoint of a reasonable examiner in the first instance. Here, a reasonable examiner reviewing Marlow's proposed amendments would have considered the district court's prior construction of that patent important.

C

Lastly, Marlow argues that a genuine issue of material fact exists with regard to Marlow's intent to deceive the PTO. Intent to mislead does not require direct evidence, and is typically inferred from the facts. *GFI*, 265 F.3d at 1274, 60 USPQ2d at 1144. Intent may be inferred when a patent applicant knew, or should have known, that withheld information could be material to the PTO's consideration of the patent application. *Critikon, Inc. v. Becton Dickinson Vascular Access, Inc.*, 120 F.3d 1253, 1256-57, 43 USPQ2d 1666, 1668-69 (Fed.Cir.1997); *Brasseler*, 267 F.3d at 1375-76, 60 USPQ2d at 1484; *Merck & Co. v. Danbury Pharmacal, Inc.*, 873 F.2d 1418, 1422, 10 USPQ2d 1682, 1686 (Fed.Cir.1989) (stating that intent is most often proven by a showing of acts the natural consequences of which are presumably intended by the actor).

Marlow argues that a factual dispute exists with regard to its alleged intent to deceive the PTO. According to Marlow, the district court found intent by incorrectly assuming that claim 4 is broader than claim 1 and by disregarding the affidavit of Marlow's attorney denying an intent to deceive.

Igloo argues that the district court correctly concluded that Marlow acted with intent to deceive the PTO. According to Igloo, Marlow knew, or should have known that the examiner would have considered the district court's claim construction of the '193 patent (specifically its holding that cool only or heat only devices cannot infringe the '193 patent) material to Marlow's attempts to add claims directed to cool only or heat only devices. Igloo further contends that the affidavit of Marlow's counsel does not create a genuine issue of fact as to Marlow's intent because it consists of mere denials of an intent to deceive.

*6 The district court did not err in concluding that there was no genuine issue of material fact with respect to Marlow's intent to deceive the PTO by failing to submit the district court's prior orders construing the claims of the '193 patent when it proposed amended language during the final reexamination. The same attorney represented Marlow before the district court in this case and before the PTO during the final reexamination proceedings. See *Critikon*, 120 F.3d at 1257, 43 USPQ2d at 1669 (noting that the patent counsel who were handling the reissue proceedings were keenly aware of the ongoing district court litigation and the issues involved prior to the resolution of the reissue proceedings) Yet, despite the district court's prior holding that a picnic box had to both heat and cool to infringe the '193 patent, Marlow proposed claims using the disjunctive language of "cools or heats." See *In re Freeman*, 30 F.3d at 1465, 31 USPQ2d at 1448 (stating that "given the interpretation of the district court during the infringement litigation, it is clear that the amendments to the independent claims during reexamination attempt[ed] an end run around the [district court's] interpretation"). Under these circumstances and in light of the binding nature of the district court's prior claim construction, Marlow's failure to submit the April 3 and September 1, 1998, orders leads to a finding that Marlow intended to deceive the PTO. As the district court recognized when considering Igloo's inequitable conduct motion, Marlow should have known that a patent examiner would have found the two prior court orders considering the construction of the '193 patent material to the reexamination. Indeed, during the pendency of the reexamination, Igloo's counsel twice reminded Marlow by letter of its duty to disclose the district court's claim construction to the examiner. The only evidence Marlow offers to negate a finding of an intent to deceive is an affidavit from its counsel denying such deceitful intent. However, a mere denial of an intent to deceive is not sufficient where a

patentee faces a high level of materiality and proof that it knows or should have known of that materiality. *Critikon*, 120 F.3d at 1257, 43 USPQ2d at 1669 (citing *FMC Corp.*, 835 F.2d at 1415, 5 USPQ2d at 1116).

CONCLUSION

In sum, we conclude that viewing the evidence in the light most favorable to Marlow, there is no genuine issue of material fact as to the materiality of the district court's April 3 and September 1, 1998, orders to the final reexamination of the '193 patent and Marlow's intent to deceive the PTO. Furthermore, the district court did not abuse its discretion in holding the '193 patent unenforceable. Accordingly, we affirm the district court's order granting summary judgment of invalidity to Igloo.

2003 WL 21212626 (Fed.Cir.)

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2003 WL 21212626